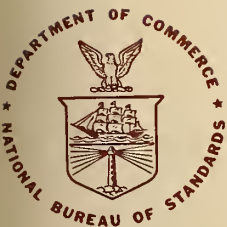


NBS TECHNICAL NOTE 653



U.S. DEPARTMENT OF COMMERCE / National Bureau of Standards

The Thermophysical Properties of Methane, from 90 to 500 K at Pressures to 700 Bar

QC
100
U5753
no. 653
1974
C. 2

NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards¹ was established by an act of Congress March 3, 1901. The Bureau's overall goal is to strengthen and advance the Nation's science and technology and facilitate their effective application for public benefit. To this end, the Bureau conducts research and provides: (1) a basis for the Nation's physical measurement system, (2) scientific and technological services for industry and government, (3) a technical basis for equity in trade, and (4) technical services to promote public safety. The Bureau consists of the Institute for Basic Standards, the Institute for Materials Research, the Institute for Applied Technology, the Institute for Computer Sciences and Technology, and the Office for Information Programs.

THE INSTITUTE FOR BASIC STANDARDS provides the central basis within the United States of a complete and consistent system of physical measurement; coordinates that system with measurement systems of other nations; and furnishes essential services leading to accurate and uniform physical measurements throughout the Nation's scientific community, industry, and commerce. The Institute consists of a Center for Radiation Research, an Office of Measurement Services and the following divisions:

Applied Mathematics — Electricity — Mechanics — Heat — Optical Physics — Nuclear Sciences² — Applied Radiation² — Quantum Electronics³ — Electromagnetics³ — Time and Frequency³ — Laboratory Astrophysics³ — Cryogenics³.

THE INSTITUTE FOR MATERIALS RESEARCH conducts materials research leading to improved methods of measurement, standards, and data on the properties of well-characterized materials needed by industry, commerce, educational institutions, and Government; provides advisory and research services to other Government agencies; and develops, produces, and distributes standard reference materials. The Institute consists of the Office of Standard Reference Materials and the following divisions:

Analytical Chemistry — Polymers — Metallurgy — Inorganic Materials — Reactor Radiation — Physical Chemistry.

THE INSTITUTE FOR APPLIED TECHNOLOGY provides technical services to promote the use of available technology and to facilitate technological innovation in industry and Government; cooperates with public and private organizations leading to the development of technological standards (including mandatory safety standards), codes and methods of test; and provides technical advice and services to Government agencies upon request. The Institute consists of a Center for Building Technology and the following divisions and offices:

Engineering and Product Standards — Weights and Measures — Invention and Innovation — Product Evaluation Technology — Electronic Technology — Technical Analysis — Measurement Engineering — Structures, Materials, and Life Safety⁴ — Building Environment⁴ — Technical Evaluation and Application⁴ — Fire Technology.

THE INSTITUTE FOR COMPUTER SCIENCES AND TECHNOLOGY conducts research and provides technical services designed to aid Government agencies in improving cost effectiveness in the conduct of their programs through the selection, acquisition, and effective utilization of automatic data processing equipment; and serves as the principal focus within the executive branch for the development of Federal standards for automatic data processing equipment, techniques, and computer languages. The Institute consists of the following divisions:

Computer Services — Systems and Software — Computer Systems Engineering — Information Technology.

THE OFFICE FOR INFORMATION PROGRAMS promotes optimum dissemination and accessibility of scientific information generated within NBS and other agencies of the Federal Government; promotes the development of the National Standard Reference Data System and a system of information analysis centers dealing with the broader aspects of the National Measurement System; provides appropriate services to ensure that the NBS staff has optimum accessibility to the scientific information of the world. The Office consists of the following organizational units:

Office of Standard Reference Data — Office of Information Activities — Office of Technical Publications — Library — Office of International Relations.

¹ Headquarters and Laboratories at Gaithersburg, Maryland, unless otherwise noted; mailing address Washington, D.C. 20234.

² Part of the Center for Radiation Research.

³ Located at Boulder, Colorado 80302.

⁴ Part of the Center for Building Technology.

100
5753
653
974
12

U.S. National Bureau of Standards
Boulder, Colorado 80302

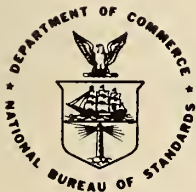
1974
acc.

**The Thermophysical Properties
of Methane, from 90 to 500 K at
Pressures to 700 Bar**

R. D. Goodwin

**Cryogenics Division
Institute for Basic Standards
U.S. National Bureau of Standards
Boulder, Colorado 80302**

t. Technical note no 653



U.S. DEPARTMENT OF COMMERCE, Frederick B. Dent, Secretary

NATIONAL BUREAU OF STANDARDS, Richard W. Roberts, Director

National Bureau of Standards Technical Note 653

Nat. Bur. Stand. (U.S.). Tech. Note 640. 280 pages (April 1974)

CODEN: NBTNAE

CONTENTS

	Page
1. INTRODUCTION	1
2. PHYSICAL PROPERTIES AND THEIR REPRESENTATION	3
2.1 Fixed-Point Constants	3
2.2 Melting Line and Vapor Pressures	3
2.3 The Orthobaric Densities	4
2.4 The Virial Equation	6
2.5 The Equation of State	6
2.6 Representation of $C_v(T)$ at 18.5 mol/l	8
3. COMPUTATIONAL METHODS	9
3.1 The Homogeneous Domain	9
3.2 The Vapor-Liquid Transition	10
3.3 Representation of $E_\sigma(T)$ and $S_\sigma(T)$	11
3.4 Circumventing the Critical Domain	12
4. COMPARISON OF DERIVED AND EXPERIMENTAL PROPERTIES	12
4.1 Heats of Vaporization	12
4.2 Specific Heats $C_\sigma(T)$, $C_v(\rho, T)$, $C_p(\rho, T)$	13
4.3 Speeds of Sound $W_\sigma(T)$, $W(\rho, T)$	13
5. TABLES OF PHYSICAL AND THERMODYNAMIC PROPERTIES	13
5.1 Calculated P- ρ -T Isochores and Isotherms	13
5.2 The Joule-Thomson Inversion Locus	14
5.3 Thermophysical Properties of the Saturated Liquid	14
5.4 Thermophysical Properties Along Selected Isobars	14
6. TABLES IN BRITISH ENGINEERING UNITS	14
7. COMMENTS ON UNCERTAINTIES	14
8. ACKNOWLEDGMENTS	15
9. REFERENCES	16

CONTENTS (continued)

Appendix A.	Symbols and Units	21
Appendix B.	Fixed-Point Values	22
Appendix C.	Conversion of Units	23
Appendix D.	List of new Data	24
Appendix E.	Computer Programs	25

LIST OF FIGURES

Figure 1.	Density-temperature phase diagram	42
-----------	---	----

LIST OF TABLES

Table 1-A.	The saturated vapor densities	43
Table 1-B.	The saturated liquid densities	45
Table 1-C.	The vapor-liquid saturation temperatures	46
Table 2-A.	The second virial coefficient	49
Table 2-B.	The third virial coefficient	50
Table 3.	Summary of P - ρ - T data	51
Table 4.	Comparison of experimental and calculated P - ρ - T values	52
Table 5.	Comparison of specific heats for saturated liquid	79
Table 6.	Comparison of specific heats, $C_v(\rho, T)$	80
Table 7.	Comparison of specific heats, $C_p(\rho, T)$	85
Table 8.	Comparison of speeds of sound for saturated liquid	87
Table 9.	Comparison of speeds of sound, $W(\rho, T)$	88
Table 10.	Calculated $P(T)$ isochores	90
Table 11.	Calculated $P(\rho)$ isotherms	117
Table 12.	The Joule-Thomson inversion locus	134
Table 13.	Thermophysical properties of the saturated liquid	135
Table 14.	Thermophysical properties along isobars	137
Table 15.*	The Joule-Thomson inversion locus	205
Table 16.*	Thermophysical properties of the saturated liquid	206
Table 17.*	Thermophysical properties along isobars	209

* Tables in British engineering units.

ABSTRACT

Thermophysical properties of methane are tabulated at uniform temperatures from 90.68 to 500 K along isobars to 700 bar. A novel equation of state is employed for the first time, having origin on the vapor-liquid coexistence boundary. Computations are based almost entirely on ideal gas specific heats and experimental P - ρ - T data via the equation of state, without weighting to data for derived properties. Good agreement with such data confirms validity of the equation and method. New P - ρ - T data are reported at 0.3 to 1.7 times the critical density.

Key words: Densities; enthalpies; entropies; equation of state; internal energies; isobars; isochores; isotherms; Joule-Thomson inversion; latent heats of vaporization; melting line; orthobaric densities; PVT data; specific heats; speeds of sound; vapor pressures.

1. INTRODUCTION

Methane is the major component of natural gas, and hence of great economic importance. For the processes of liquefaction, separation, storage, pumping, transport and custodial transfer there is required a knowledge of physical and thermodynamic properties. For mixtures, some properties can be approximated by those of pure methane. For computations on the properties of LNG mixtures, the dominant thermodynamic data required again are those of methane. In the following work it is possible to test the thermodynamic computations against experimental data for specific heats, heats of vaporization, and speeds of sound available over wider ranges than for other components of LNG. Some of the experimental data obtained here on methane, for example the saturated liquid densities, also have been useful to others for calibrating experimental apparatus.

Extreme accuracy is needed in physical and thermodynamic properties data for engineering plant design, as demonstrated recently by Zudkevitch [73]. Two monographs on methane [61, 72] show, however, that low temperature data necessary for thermal computations either are non-existent or are inaccurate. In view of the importance of the low-temperature, liquid states of methane and natural gas, our objective has been to supply the needed properties data directly by experiment, and then to produce a set of self-consistent tables of thermodynamic functions over the entire range of fluid states.

* This work was carried out at the National Bureau of Standards under sponsorship of The American Gas Association.

This report culminates three years of work in acquiring available physical properties data, in performing experimental measurements, and in formulating these data for use in thermal computations. Nearly all of these formulations are new: designed to be consistent with critical-point behavior. Where appropriate, they are constrained both at the triple point and at the critical point for consistency in the derived thermodynamic network. New physical properties data which we have measured or derived are listed in Appendix D.

Our new equation of state is a contribution to the present task. An outstanding feature is that it originates on the vapor-liquid coexistence boundary, thus eliminating the long-standing problem of consistency between equations of state and this independently-derived locus. The equation also is consistent with the nonanalytic behavior of $C_v(\rho, T)$ about the critical point. It has only nine coefficients to be found by least squares from experimental P - ρ - T data, and these will be similar for most simple substances [30]. As compared with equations which employ a much greater number of arbitrary coefficients, we believe the present form to be advantageous for thermal computations because the derivatives, $\partial P/\partial T$, $\partial^2 P/\partial T^2$, and $\partial P/\partial \rho$ are more likely to be simple, monotonic functions of the independent variables, as demonstrated below by computed tabulations. We believe that a proper behavior of these derivatives is more important than the mere "representation" of experimental P - ρ - T data. In particular, experimental data from different laboratories often must be used which are not accurate, as proven by their lack of consistency. An equation of state with excess freedom then is most likely to give serious irregularities in the derivatives. As a reward for minimizing the number of arbitrary coefficients, we find in the present work that derived properties such as specific heats and speeds of sound, calculated "a priori" via the equation of state, do agree with experimental data within combined uncertainties, without any weighting of the equation of state to such data. This accomplishment, we believe, never before has been realized. It suggests that where such data do not exist experimentally, they might be estimated with some reliability via the present type of equation of state.

Symbols and units of this report are given in Appendix A. Temperatures are on the kelvin scale of IPTS-1968 [1]. Pressures are related to the International System by use of the bar, $1 \text{ bar} = 10^5 \text{ Newton/square meter}$ [3]. For the engineer we have computed

tables in British engineering units at integral pressures in psi and integral temperatures on the Fahrenheit scale. The conversion of units is given in Appendix C. Deviations in this report are expressed uniformly as the departure of an experimental value, Y , from the smooth function for a calculated value, Y_{calc} , in the form for relative deviation in percent, $100 \cdot (Y - Y_{\text{calc}}) / Y$.

2. PHYSICAL PROPERTIES AND THEIR REPRESENTATION

2.1 Fixed-Point Constants

Selected values for the triple- and critical-point constants are listed in Appendix B. The triple-point temperature and pressure are from our vapor-pressure equation [52]. The liquid density is an extrapolation of our accurate, saturated liquid densities [30] to the triple-point temperature. The vapor density is given by eq (4-c) of this report.

The critical-point temperature is from an analysis of dielectric constants by Verbeke [68]. The pressure is given by the vapor-pressure equation (3) below. The density is selected within the uncertainty in [68] to minimize the mean of relative pressure deviations via the present equation of state.

2.2 Melting Line and Vapor Pressures

These pressures $P(T)$ are reported in [52], where they are compared with other data. Melting pressures are formulated by the Simon equation

$$P/P_t = 1 + A \cdot [(T/T_t)^\epsilon - 1] , \quad (1)$$

with constants $\epsilon = 1.85$, $A = 16,259.1$. The precision is better than 0.1 percent in pressure [52].

Densities of the freezing liquid were obtained at three points to a maximum pressure of 220 bar at intersections of our experimental isochores with the melting line, as reported in [23]. They are represented within the precision of 0.02% in density by our simple expression

$$(d/d_t) = (T/T_t)^{1/4} . \quad (2)$$

Our recent vapor pressure measurements are compared with other data in [52]. Our vapor pressure equation (3) is adjusted for the value of T_c in the present report. Define the argument $x(T) \equiv (1-T_t/T)/(1-T_t/T_c)$, when the equation is--

$$\ln(P/P_t) = a \cdot x + b \cdot x^2 + c \cdot x^3 + d \cdot x \cdot (1-x)^{3/2} \quad (3)$$

$$a = 4.7774\ 8580,$$

$$c = -0.5678\ 8894,$$

$$b = 1.7606\ 5363,$$

$$d = 1.3278\ 6231.$$

The rms deviation for 103 points is 0.014%.

2.3 The Orthobaric Densities

The data were reviewed in [26]. We now have omitted data near the critical point in finding coefficients for the fitting functions, equations 4-a, 4-b, 4-c, because these data are least accurate, and the fitting functions in the critical region are influenced only slightly by these data. We include all data, however, in the comparison tables 1-A, 1-B, 1-C. Identifications in these tables are: ID = 1 for vapor densities obtained from the virial and vapor pressure equations [23]; ID = 1 for liquid densities obtained from our isochore intersections with the vapor pressure equation [30]; ID = 2 for vapor densities via the virial equation of this report; ID = 5 for data of Jansoone et al. [39]; ID = 6 for data derived via Ricci et al. [53]; and ID = 7 for privately-communicated data of O. B. Verbeke [68]. Some of the latter data are assigned two temperatures, differing by 0.02 K, due to uncertainties between different laboratories. Identifications given by three or four digits are for densities via our dielectric constant measurements [29].

a) For the saturated vapor, define the variables--

$$x(T) \equiv (T_c - T)/(T_c - T_t),$$

$$u(T) \equiv (T_c/T - 1)/(T_c/T_t - 1).$$

The function now is--

$$\ln(\rho/\rho_c) = a \cdot x^\epsilon + b \cdot x + c \cdot x^{4/3} + d \cdot x^{5/3} + e \cdot x \cdot u, \quad (4-a)$$

$$\epsilon = 0.46,$$

$$c = -8.657\ 3409,$$

$$a = -2.703\ 6003,$$

$$d = 5.264\ 0362,$$

$$b = 3.166\ 1552,$$

$$e = -3.526\ 9034.$$

The comparisons are given in table 1-A.

b) For the saturated liquid we use $x(T)$ as defined above, and also,

$$W(x) \equiv a \cdot (1-x)^{2/3} + b \cdot (1-x)^{4/3} + c \cdot (1-x)^2,$$

in a function which is constrained both at the triple- and at the critical-points--

$$(\rho - \rho_c) / (\rho_t - \rho_c) = x^\epsilon \cdot \exp[W(x)], \quad (4-b)$$

$$\epsilon = 0.36,$$

$$b = 0.0483\ 8475,$$

$$a = -0.1788\ 60165,$$

$$c = -0.0184\ 8987.$$

The comparisons are given in table 1-B.

c) The single-valued function $T_\sigma(\rho)$, given by eq (4-c), is used for the equation of state. Densities are obtained by iteration, using eqs (4-a) and (4-b) only to find the initial density. Define the variables.

$$Y(T_\sigma) \equiv (T_c/T_\sigma - 1)/(T_c/T_t - 1),$$

$$U(\sigma) \equiv \exp\left[\epsilon \cdot \sigma \cdot (\sigma - \sigma_t) / |\sigma - 1|\right],$$

$$W(\rho) \equiv A_1 + A_2 \cdot \ln(\rho) + A_3 \cdot \rho^{1/3} + A_4 / (1 + E \cdot \rho^{2/3}) + \sum_{i=5}^{10} A_i \cdot \rho^{i-4}$$

where $\sigma_t \equiv d_t/d_c$ is a constant, $\epsilon = 1/2$, and $E = 8$. The function now has the simple form,

$$Y(T_\sigma) = U(\sigma) \cdot \left[1 + (\rho - 1) \cdot W(\rho)\right], \quad (4-c)$$

$$A_1 = 0.8432\ 0686,$$

$$A_6 = 10.8869\ 3606,$$

$$A_2 = 0.1597\ 2304,$$

$$A_7 = -32.4204\ 8700$$

$$A_3 = 0.9783\ 7869$$

$$A_8 = 63.1616\ 6459,$$

$$A_4 = 0.2865\ 4081$$

$$A_9 = -62.7209\ 0242,$$

$$A_5 = -1.7150\ 5402,$$

$$A_{10} = 25.9249\ 8181.$$

The comparisons are given in table 1-C.

The exponential form, $U(\sigma)$, used for $T_\sigma(\rho)$ in eq (4-c) was developed to give a well-behaved critical isotherm (non-negative slopes, $\partial P/\partial \rho$) for all reasonable assignments (within the experimental uncertainties) of the critical point (ρ_c, T_c) in the equation of state (6).

Whereas the thermal computations circumvent this near-critical region, the equation of state is tied to the saturation boundary described as a function of density by eqs (4-c) and (3). This may be the reason that we find the greatest deviations from experimental P - ρ - T data along isochores near the critical density, table 4.

2.4 The Virial Equation

For the virial equation of state,

$$Pv/RT = 1 + B(T) \cdot \sigma + C(T) \cdot \sigma^2 + \dots \quad (5)$$

the second and third coefficients, $B(T)$ and $C(T)$, here are dimensionless via reduced density, $\sigma \equiv d/d_c$. We reduce the temperature, $x \equiv T/T_t$, at the triple point. Sources of selected data in Tables 2-A, 2-B are: ID1 = Douslin [17], ID2 = Hoover [37], ID3 = Byrne [8], ID4 = Pope [51], and ID5 = Sengers [56]. The virial coefficients are formulated by completely new functions as follows,

$$B(T) = \left[B_1 + B_2/x^{1/2} + B_3/x + B_4/x^2 + B_5/x^3 \right] \cdot f(x) \quad (5-a)$$

where

$$f(x) \equiv 1 - (T_o/T)^{1/4},$$

$T_o = 505.0 \text{ K},$	$B_3 = 123.540 \ 958,$
$B_1 = 16.974 \ 318,$	$B_4 = -92.601 \ 354,$
$B_2 = -80.055 \ 038,$	$B_5 = 42.974 \ 121.$

The third virial coefficient is represented by

$$C(T) = \left[C_1/x^{1/2} + C_2/x^2 + C_3/x^4 + C_4/x^6 \right] \cdot f(x), \quad (5-b)$$

where

$f(x) \equiv 1 - T_o/T,$	$T_o = 139.922 \text{ K},$
$C_1 = 0.36 \ 212,$	$C_3 = 18.69 \ 531,$
$C_2 = 0.83 \ 584,$	$C_4 = 9.15 \ 517.$

In the above equations we have defined the arguments, $(1/x)^n$, such that they have a maximum value of unity at the triple point. We therefore may keep the same number of decimal digits in all of the least-squares coefficients. In this way one may ascertain that the constants given here contain more than a sufficient number of digits for the precision of data in tables 2-A and 2-B.

2.5 The Equation of State

Experimental compressibility (P - ρ - T) data are given in various ranges by several publications [9, 17, 30, 32, 39, 41, 44, 49, 54, 65, 66, 72]. Michels' data [49] are reviewed by Douslin [17]. Compressed liquid data of van Itterbeek [65], as well as those found in the monograph by Zagoruchenko [72], appear to be of lower accuracy than needed for thermal computations.

Data reproduced in the present report are summarized by table 3. For adjusting our equation of state we have used only three sets of data: 1) as computed by our virial equation; 2) our published data [30] and our new data given in this report; and 3) the data of Douslin et al. [17].

The present equation of state is novel in that it originates on the vapor-liquid coexistence boundary. The melting line, however, is not a part of this equation of state. It must be introduced independently.

By means of our function $T_{\sigma}(\rho)$, eqn (4-c), we obtain the vapor-liquid coexistence temperature for any density (isochore). Placing this in the vapor-pressure equation gives the coexistence pressure $P_{\sigma}[T_{\sigma}(\rho)]$. This defines the equation of state as a function of density on the vapor-liquid coexistence boundary. By subtraction we shift the origin to this boundary.

This novel equation of state may be written in concise form by use of the variables,

$$\begin{aligned} x(T) &\equiv T/T_c, & x_{\sigma}(\rho) &\equiv T_{\sigma}(\rho)/T_c, \\ Y(P, \rho, T) &\equiv (Z-1) \cdot x/\rho, & Y_{\sigma}(\rho) &\equiv (Z_{\sigma}-1) \cdot x_{\sigma}/\rho, \end{aligned}$$

as follows

$$(Y - Y_{\sigma}) = B(\rho) \cdot X_b(\rho, T) + C(\rho) \cdot X_c(\rho, T) + D(\rho) \cdot X_d(\rho, T), \quad (6)$$

where $B(\rho)$, $C(\rho)$, $D(\rho)$ are polynomial coefficients to be found by least squares, and the $X_i(\rho, T)$ are functions both of density and temperature as a consequence of subtracting the values at coexistence,

$$\begin{aligned} X_b(\rho, T) &\equiv x \cdot [1 - \exp(-\beta/x)] - x_{\sigma} \cdot [1 - \exp(-\beta/x_{\sigma})], \\ X_c(\rho, T) &\equiv 1/x - 1/x_{\sigma}, \\ X_d(\rho, T) &\equiv [1 - w \cdot \ln(1+1/w)]/u - [1 - w_{\sigma} \cdot \ln(1+1/w_{\sigma})]/u_{\sigma}. \end{aligned}$$

The last of these functions gives nonanalytic behavior for $C_v(\rho, T)$ about the critical point by use of the variables,

$$\begin{aligned} u(\rho, T) &\equiv T/\theta(\rho), & w(\rho, T) &\equiv \delta \cdot (u-1), \\ u_{\sigma}(\rho) &\equiv T_{\sigma}(\rho)/\theta(\rho), & w_{\sigma}(\rho) &\equiv \delta \cdot (u_{\sigma}-1), \end{aligned}$$

where δ is an arbitrary constant, $\theta(\rho)$ is our locus of temperatures [18] inside the "dome" of figure 1,

$$\theta(\rho) \equiv T_{\sigma}(\rho) \cdot \exp \left[-\alpha \cdot |\sigma - 1|^3 \right],$$

and $T_{\sigma}(\rho)$ is given by eq (4-c) above. As described also in [26,30], this is an empirical equation which is qualitatively consistent with the experimental behavior of $C_v(\rho, T)$ about the critical point.

The coefficients of (6) result from tedious investigations of various combinations of polynomials,

$$B(\rho) \equiv B_0 + B_1 \cdot \rho,$$

$$C(\rho) \equiv C_0 + C_1 \cdot \rho + C_2 \cdot \rho^2 + C_3 \cdot \rho^3,$$

$$D(\rho) \equiv (\sigma-1) \cdot (D_0 + D_1 \cdot \rho + D_2 \cdot \rho^2).$$

For application of the least squares technique, each of the above polynomials is multiplied throughout by its temperature-dependent factor, $X_1(\rho, T)$ from eqn (6), to give nine least-squares coefficients.

The constants for eq (6) are

$$\alpha = 0.2, \quad \beta = 7, \quad \delta = 1,$$

$$B_0 = 1.5991\ 01971,$$

$$C_2 = -22.5567\ 15826,$$

$$B_1 = 2.4837\ 86733,$$

$$C_3 = 12.2896\ 65719,$$

$$D_0 = 0.9937\ 50233,$$

$$C_0 = -1.0760\ 88156,$$

$$D_1 = -1.2430\ 35021,$$

$$C_1 = 10.4821\ 92754,$$

$$D_2 = 0.3185\ 23715.$$

Table 4 gives a comparison of the experimental and calculated densities and pressures. The reader should note that $\partial\rho/\partial T$ and $\partial\rho/\partial P$ become infinite at the critical point. Density deviations therefore should be ignored in the critical region $0.95 \leq T/T_c \leq 1.1$. For compressed liquid at low temperatures the derivative $\partial P/\partial\rho$ becomes extremely large, such that small experimental errors in density will yield (via the equation of state) deviations of calculated pressures greatly exceeding the accuracy of pressure measurements. In this domain the equation of state should be used only to find $\rho(P, T)$.

2.6 Representation of $C_v(T)$ at 18.5 mol/l

For use below in 3.4 we have adjusted experimental specific heats of several runs by Younglove [71] to the density of 18.5 mol/l, and then have represented these data by use of the argument, $x(T) \equiv T/\theta(\rho)$, $\theta = 164.1171$ K:

$$C_v/C_v^0 = 1 + a/x + b/x^2 + c/x^3/(x-1)^{0.1}. \quad (7)$$

$$a = 0.472\ 950, \quad b = -0.502\ 717, \quad c = 0.214\ 2134$$

where $C_v^0(T)$ is the ideal gas specific heat as tabulated in [21], and as calculated by our SUBROUTINE IDEAL reproduced in Appendix E.

3. COMPUTATIONAL METHODS

The numerical values for E and H in this report are on the same absolute basis as those of Tester [61], obtained by use of $E_O^0 = (4.1868) \cdot (2191.3)$ J/mol. This not only permits a direct comparison of results; it also precludes negative values for these functions in compressed liquid states.

3.1 The Homogeneous Domain

With reference to figure 1, we start our computations with ideal gas values described in [21] as a function of temperature at zero density, and then integrate along isotherms by use of the equation of state in the following relations,

$$\Delta E = \int [P - T \cdot (\partial P / \partial T)] \cdot d\rho / \rho^2, \quad (8)$$

$$\Delta C_v = -T \cdot \int (\partial^2 P / \partial T^2) \cdot d\rho / \rho^2, \quad (9)$$

$$\Delta S = R \cdot \ln[P^0 / (\rho RT)] + \int [R - (\partial P / \partial T) / \rho] \cdot d\rho / \rho. \quad (10)$$

Equation (10) is for use with initial entropies in hypothetical ideal gas states at $P^0 = 1$ atm. In the compressed liquid at $T < T_c$ we use

$$\Delta S = - \int (\partial P / \partial T) \cdot d\rho / \rho^2 \quad (10-a)$$

In each (ρ, T) state, reached by above integrations, we compute

$$H = E + P / \rho, \quad (11)$$

$$C_p = C_v + T \cdot (\partial P / \partial T)^2 / (\partial P / \partial \rho) / \rho^2, \quad (12)$$

$$W^2 = C_p \cdot (\partial P / \partial \rho) / C_v. \quad (13)$$

3.2 The Vapor-Liquid Transition

At $T < T_a$ of figure 1 we traverse the vapor-to-liquid "dome" by use of the Clapeyron equation, and $\Delta v \equiv (v_\ell - v_g)$,

$$\Delta H = T \cdot (dP/dT) \cdot \Delta v , \quad (14)$$

$$\Delta E = \Delta H - P \cdot \Delta v , \quad (15)$$

$$\Delta S = \Delta H/T \quad (16)$$

where (dP/dT) is slope of the vapor pressure curve. We then obtain the specific heat of liquid along the coexistence path via

$$C_\sigma(T) = T \cdot (dS_\sigma/dT) . \quad (17)$$

The single-phase specific heats $C_v(\rho, T)$ may be estimated on the saturated liquid boundary from the following difference [55] ,

$$C_v(\rho, T) = C_\sigma(T) + T \cdot (\partial P / \partial T) \cdot (d\rho_\ell / dT) / \rho_\ell^2 , \quad (18)$$

where $(d\rho_\ell / dT)$ is the (negative) slope of saturated liquid density vs T . Each term on the right of (18) approaches infinity at the critical point, where the accuracy of computation vanishes. For this and other reasons we have computed around the critical point, by use of experimental C_v data at 18.5 mol/l, as discussed below for the cross-hatched region of figure 1.

3.3 Representation of $E_{\sigma}(T)$ and $S_{\sigma}(T)$

Having computed these functions for saturated liquid, we give them analytical representations to avoid repetitive integrations. The following representations are accurate within 0.001% at any point, and each gives an rms deviation less than 0.0005% for 52 points at $T_t \leq T \leq T_c$. For consistency in the thermal network we compute $C_{\sigma}(T)$ by eq (17), above.

For internal energy, use these variables

$$x(T) \equiv (T_c - T)/(T_c - T_t),$$

$$Y(E) \equiv (E - E_t)/(E_c - E_t),$$

$$W(x) \equiv A_1 \cdot x \cdot \ln(1 + B/x) + A_2 \cdot x^{\epsilon} + \sum_{i=3}^9 A_i \cdot x^{i-2},$$

when the function is

$$Y(E) = (1-x) \cdot \exp[W(x)], \quad (19)$$

$B =$	0.10,	$A_1 =$	-0.0294 0994,	$A_5 =$	-9.7180 4579,
$\epsilon =$	0.19,	$A_2 =$	-0.1915 4778,	$A_6 =$	17.1576 6593,
$E_t =$	3471.853,	$A_3 =$	-0.6745 4649,	$A_7 =$	-16.5038 8861,
$E_c =$	10819.568,	$A_4 =$	3.1155 4755,	$A_8 =$	7.7926 2156,
				$A_9 =$	-1.3662 1087.

For the entropy, define $x(T)$ as above, and also

$$Y(S) \equiv (S - S_t)/(S_c - S_t),$$

$$W(x) \equiv A_1 \cdot x \cdot \ln(1 + 1/x) + A_2 \cdot x^{\epsilon} + A_3 \cdot x^{1/2} + \sum_{i=4}^8 A_i \cdot x^{i-2},$$

when the function is

$$Y(S) = (1-x) \cdot \exp[W(x)], \quad (20)$$

$\epsilon =$	0.19,	$A_3 =$	0.0687 0234,
$S_t =$	67.87 832,	$A_4 =$	1.6874 3215,
$S_c =$	120.46 263,	$A_5 =$	-5.3312 1801,
$A_1 =$	-0.1566 0939,	$A_6 =$	9.0640 7137,
$A_2 =$	-0.1727 1532,	$A_7 =$	-7.5434 7331,
		$A_8 =$	2.4352 9834.

3.4 Circumventing the Critical Domain

The computations of section 3 become inaccurate along isotherms near T_c . As $T \rightarrow T_c^-$ the heats of vaporization become increasingly uncertain, and the accuracy obtained from eq (18) vanishes. As $T \rightarrow T_c^+$ the slopes and curvatures of isochores are insufficiently well known to give reliable results. We therefore have used the following procedure to compute around the critical point into the cross-hatched region of figure 1:

We select the isochore of experimental specific heats at $\rho' = 18.5 \text{ mol/l}$, which intersects the liquid-vapor boundary at $T_a = 174.516 \text{ K}$. We then select $T_b = 220 \text{ K}$, obtaining --

$$E(\rho', T_b) = 9874.3 \text{ J/mol}, \quad S(\rho', T_b) = 113.912 \text{ J/mol/K}.$$

By use of (7) for $C_v(\rho', T)$ we then integrate down to any $T_a < T < T_b$,

$$\Delta E = \int_{T_b}^T C_v \cdot dT, \quad \Delta S = \int_{T_b}^T C_v \cdot dT/T.$$

We finally integrate along isotherm T as described among eqs (8) through (13). For the cross-hatched region of figure 1 we thus obtain all of the thermofunctions without crossing the "dome" near T_c , and without passing close to the critical point at $T > T_c$.

In the above computation around the critical point (on isotherm T_b and then along isochore ρ' of figure 1) we wish, for consistency, to obtain values of functions for the saturated liquid at T_a which agree with values obtained by computing across the vapor-liquid "dome" on isotherm T_a . To obtain agreement for the internal energy, E , and for the entropy, S , it is necessary to multiply the specific heats along isochore ρ' , eq (7), by the factor 0.9737. This adjustment of about 2.6% is larger than the estimated uncertainty in experimental, single-phase specific heats [71]. One must remember, however, that until recently it was considered by many that specific heats computed via the second derivative $\partial^2 P / \partial T^2$ from an equation of state were "good" if they were within 10% of the experimental measurements.

4. COMPARISON OF DERIVED AND EXPERIMENTAL PROPERTIES

4.1 Heats of Vaporization

This property is notoriously difficult to measure accurately, and results from two laboratories are not in good agreement [36, 70]. Their data have been tabulated in [21]. Present results agree best with those of Hestermans and White [36], namely within about

two percent at worst (high temperature). At 100 K our heat of vaporization of 8512 J/mol is in excellent agreement with the experimental value, 8514 ± 21 J/mol, obtained by Cutler and Morrison [11].

4.2 Specific Heats, $C_\sigma(T)$, $C_v(\rho, T)$, $C_p(\rho, T)$

Specific heats $C_\sigma(T)$ on the coexistence path have been derived from heat capacity measurements on the two-phase, liquid-vapor system by use of existing vapor pressure and saturated liquid density data [71]. Results therefore are not directly experimental, and may have greater uncertainty than the observations [31]. These recent data of Younglove are compared with our derived results in table 5. The maximum deviations between calculated and measured $C_\sigma(T)$ are about two percent. Cutler and Morrison [11] give specific heats of the saturated liquid from 93.95 to 106.96 K. Our calculated value of 53.31 J/mol/K at 95.85 K may be compared with 54.13 from [71], and with 53.43 at 95.77 K from [11].

Experimental specific heats $C_v(\rho, T)$ for compressed fluid methane [71] are compared with our derived results in table 6. The maximum deviations between calculated and measured $C_v(\rho, T)$ are about four percent.

Specific heats at constant pressure $C_p(\rho, T)$ have been measured with a flow-calorimeter over a wide range of conditions. These data are smoothed and interpolated [40]. Table 7 gives these data on the first row of each isotherm. The second row was computed by present methods. Except near the critical point the maximum deviations between calculated and measured $C_p(\rho, T)$ are about two percent, which we consider to be excellent.

4.3 Speeds of Sound, $W_\sigma(T)$, $W(\rho, T)$

Tables 8 and 9 compare experimental speeds of sound for saturated [63] and compressed liquid [64] methane with our calculated results. In eqn (13) of section 3, above, we have seen that this calculation is complicated. It is based on all previous calculations via the derived specific heats. In view of this complexity, we consider that the agreement within two percent between calculated and measured speeds of sound is good, and supports our use of the present, simple form of equation of state.

5. TABLES OF PHYSICAL AND THERMODYNAMIC PROPERTIES

5.1 Calculated P- ρ -T Isochores and Isotherms

A selection of calculated isochores and isotherms is given by tables 10 and 11. They are useful to examine behavior of the surface generated by the equation of state, and to supplement the isobars of table 14 in obtaining P- ρ -T values and their derivatives. Table 11 includes derivatives with respect to density of functions composing the equation of state, to verify that the analytical expressions used for these derivatives are correct.

5.2 The Joule-Thomson Inversion Locus

Tables 12 and 15 give our calculated P- ρ -T locus for the J. T. Inversion, $(\partial T/\partial P)_H = 0$. These results are obtained from the equation of state under the condition, $T \cdot (\partial P/\partial T) = \rho \cdot (\partial P/\partial \rho)$. They are in good agreement with earlier results [24, 61], considering sensitivity of the computation and engineering requirements.

5.3 Thermophysical Properties of the Saturated Liquid

Tables 13 and 16 give physical and thermodynamic properties for the saturated liquid. Column headings are interpreted on the first pages of these tables. Results are similar to our earlier tabulation [24] except at $T > 160$ K where the effect of our recently measured vapor densities is evident. Saturated vapor volumes and heats of vaporization are smaller than in [24] by up to 1.5 percent as $T \rightarrow T_c$. At temperatures above $T_a = 174.516$ K, however, we have computed around the critical point as described in section 3.4.

5.4 Thermophysical Properties Along Selected Isobars

Tables 14 and 17 give physical and thermodynamic properties on isobars, as computed by methods of section 3. Explanations for the tables are given on the first pages. These tables are extrapolated beyond the range of P- ρ -T data used for adjusting the equation of state ($T \sim 400$ K, $P \sim 350$ bar).

6. TABLES IN BRITISH ENGINEERING UNITS

Thermophysical properties in engineering units are given in tables 15, 16, and 17 at integral temperatures on the Fahrenheit scale and at integral pressures in psi. The conversions of units, given in Appendix C, are taken from [3, 48]. Explanations for the tables are given on the first page of each table.

7. COMMENTS ON UNCERTAINTIES

For the important saturated liquid densities, the precision of about 0.01% in representation by eq (4-b) greatly exceeds the estimated absolute accuracy of about 0.1% in the data.

For other P- ρ -T data, the differences between calculated and experimental values are detailed by table 4. Greatest experimental uncertainties of about 0.1% occur in the determination of density. Deviations of table 4 are no greater than 0.1% over most of the P- ρ -T surface. Approaching the critical point, however, they become much greater (up to about 1.0%) over the critical region: $0.9 \leq T/T_c \leq 1.2$, $0.3 \leq \rho/\rho_c \leq 1.7$. The equation of state (6), however, is qualitatively correct in the behavior of its derivatives about the critical point. We may generalize by the statement that the densities of table 14 (isobars) are accurate to 0.1% except in the critical region.

The absolute accuracy of thermodynamic functions, computed by equations of section 3, necessarily is less than that of P - ρ - T data, due to the use of derivatives of the P - ρ - T surface, and especially to taking differences, eq (8). This fact, mentioned in [22], places extreme demands on the equation of state. The accuracy of enthalpy differences is estimated by comparing our specific heats at constant pressure with experimental data in table 7. Except very close to the critical point (190.5 K, 46.0 bar), the differences mostly are no greater than 2%. With this exception, therefore, we estimate the accuracy of enthalpy differences in table 14 (isobars) to be about 2%.

The experimental specific heats C_v from [71] were estimated to be accurate to 0.5%, except approaching the critical point. For the saturated liquid, however, we mentioned above that other data used to derive $C_\sigma(T)$ could produce higher uncertainty. Table 5 shows maximum deviations of about 2% near 145 K. We estimate the accuracy of our calculated $C_\sigma(T)$ to be 1%. Excepting the critical region, we estimate the accuracy of our calculated $C_v(\rho, T)$ to be about 3%, and of $C_p(\rho, T)$ to be about 2%.

The experimental speeds of sound were estimated to be accurate to a few tenths of one percent [63, 64]. As our results in tables 8, 9 differ by a maximum of about 2%, we conclude that calculated values in table 14 (isobars) have an accuracy of 2%.

8. ACKNOWLEDGMENTS

We are indebted to The American Gas Association for generous support of this work, to Robert D. McCarty for the essential least-squares program [38, 47], and to Dwain E. Diller and Lloyd A. Weber for discussions and valuable suggestions.

9. REFERENCES

- [1] The International Practical Temperature Scale of 1968, *Metrologia* 5, No. 2, 35 (1969).
- [2] American Petroleum Institute Project 44, Thermodynamics Research Center, Texas A & M University, College Station, Texas 77843.
- [3] ASTM Metric Practice Guide (E 380-72), Amer. Soc for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.
- [4] Angerhofer, P.E. and Hanley, H. J. M., The viscosity and thermal conductivity coefficients of nine fluids: preliminary values, Unpublished Report, Nat. Bur. Stand., Boulder, Colorado, 20 Aug., 1971.
- [5] Bloomer, O. T. and Parent, J. D., Liquid-Vapor phase behavior of the methane-nitrogen system, *Chem. Eng. Progr. Symp. Ser.* 6, 49, 11 (1952).
- [6] Brewer, J., Determination of mixed virial coefficients, Midwest Research Institute, Kansas City, Missouri 64110, (Dec. 1967).
- [7] Buckingham, J. J., The specific heat singularity at the critical point. *Ber. Bunsenges Phys. Chem.* 76 Nos. 3-4, 287 (1972).
- [8] Byrne, M. A., Jones, M. R., and Staveley, L. A. K., Second virial coefficients of argon, krypton and methane and their binary mixtures at low temperatures, *Trans. Faraday Soc.* 64, No. 7, 1747 (1968).
- [9] Cheng, Vic M., Measurements on the dense-fluid equation of state and the melting parameters of argon, methane and nitrogen at high pressures, Dissertation, Department of Aerospace and Mechanical Sciences, Princeton University, Princeton, New Jersey, (Aug. 1972).
- [10] Corcoran, W. H., Bowles, R. R., Sage, B. H., and Lacey, W. N., Thermodynamic properties of methane at low temperature, *Ind. Eng. Chem.* 37, No. 9, 825 (1945).
- [11] Cutler, A. J. B. and Morrison, J. A., Excess thermodynamic functions for liquid mixtures of methane + propane, *Trans. Faraday Soc.* 61, 429 (1965).
- [12] Cox, K. W., Bono, J. L., Kwok, Y. C., and Starling, K. E., Multiproperty analysis. Modified BWR equation for methane from PVT and enthalpy data, *Ind. Eng. Chem. Fundam.* 10, No. 5, 245 (1971).
- [13] Davenport, A. J., Rowlinson, J. S., and Saville, G., Solutions of three hydrocarbons in liquid methane, *Trans. Faraday Soc.* 62, 322 (1966).
- [14] Diller, D. E., The specific heats (C_v) of dense simple fluids, *Cryogenics*, 11, 186 (June 1971).
- [15] Diller, D. E., The dielectric constant and refractive index of gaseous and liquid methane, Unpublished Report, Nat. Bur. Stand, Boulder, Colorado, June 1971.
- [16] Diller, D. E. and Roder, H. M., Correlation of thermal conductivity measurements on compressed gaseous and liquid methane, Unpublished Report, Nat. Bur. Stand., Boulder, Colorado, 30 Dec., 1971.

- [17] Douslin, D. R., Harrison, R. H., Moore, R. T., and McCullough, J. P., P-V-T relations for methane, J. Chem. Eng. Data 9, No. 3, 358 (1964).
- [18] Goodwin, R. D., Formulation of a nonanalytic equation of state for parahydrogen, J. Res. Nat. Bur. Stand. (U.S.) 73A, No. 6, 585 (1969).
- [19] Goodwin, R. D., Estimation of critical constants T_c, ρ_c from the $\rho(T)$ and $T(\rho)$ relations at coexistence, J. Res. Nat. Bur. Stand. (U.S.) 74A, No. 2, 221 (1970).
- [20] Goodwin, R. D., Thermophysical properties of methane: virial coefficients, vapor and melting pressure, J. Res. Nat. Bur. Stand. (U.S.) 74A, No. 5, 655 (1970).
- [21] Goodwin, R. D., Thermophysical properties of methane: Orthobaric densities and some thermal properties, J. Res. Nat. Bur. Stand. (U.S.) 75A, No. 1, 15 (1971).
- [22] Goodwin, R. D., Thermophysical properties of methane, paper 2, session V, Proc. 2nd Conf. on Natural Gas Research and Technology, Atlanta, Georgia, June, 1972.
- [23] Goodwin, R. D., Thermophysical properties of methane, Paper 10, Session II, Proc. 3rd Int. Conf. on Liquefied Natural Gas, Washington, D. C., Sept. 1972.
- [24] Goodwin, R. D., Tables of provisional values of thermodynamic functions for methane, Unpublished Report, Nat. Bur. Stand., Boulder, Colorado, Sept., 1971.
- [25] Goodwin, R. D., Smoothed tabulation of the PVT properties of methane, in unpublished Report, Nat. Bur. Stand., Boulder, Colorado, 1 Feb., 1972.
- [26] Goodwin, R. D., Nonanalytic equation of state for methane, constrained to the vapor-liquid P- ρ -T boundary, in Appendix F of NBSIR 73-300 (1 Feb., 1973), Nat. Bur. Stand., Boulder, Colorado.
- [27] Goodwin, R. D., Densities of liquid methane along the solid-liquid and liquid-vapor equilibrium boundaries, Unpublished Report, Nat. Bur. Stand., Boulder, Colorado, 30 April, 1971.
- [28] Goodwin, R. D., Orthobaric densities of methane near the critical point, in Appendix B of NBSIR 73-300 (1 Feb., 1973), Nat. Bur. Stand., Boulder, Colorado.
- [29] Goodwin, R. D., Dielectric constants and orthobaric densities of methane, in Appendix C of NBSIR 73-300 (1 Feb., 1973), Nat. Bur. Stand., Boulder, Colorado.
- [30] Goodwin, R. D. and Prydz, R., Densities of compressed liquid methane, and the equation of state, J. Res. Nat. Bur. Stand. (U.S.) 76A, No. 2, 81 (1972).
- [31] Goodwin, R. D. and Weber, L. A., Specific heats of oxygen at coexistence, J. Res. Nat. Bur. Stand. (U.S.) 73A, No. 1, 1 (1969).
- [32] Grigor, A. F. and Steele, W. A., Physical properties of fluid CH_4 and CD_4 : Experimental, J. Chem. Phys. 48, No. 3, 1032 (1968).
- [33] Guereca, R. A., Richardson, H. P., Gordon, J. L., et al., Thermophysical properties of selected gases below 300 degrees K., Inform. Circ. No. 8317, (Helium Research Center, U.S. Bureau of Mines, Amarillo, Texas, 1967).

- [34] Hall, Louise A., Bibliography of thermophysical properties of methane from 0 to 300 °K, Nat. Bur. Stand. (U.S.) Tech. Note 367. (U.S. Govt. Printing Office, Washington, D. C., May, 1968).
- [35] Haynes, W. M., The viscosity of saturated liquid methane, Private Communication, Nat. Bur. Stand., Boulder, Colo., 1973.
- [36] Hestermans, P. and White, D., The vapor pressure, heat of vaporization and heat capacity of methane from the boiling point to the critical temperature, J. Phys. Chem. 65, No. 2, 362 (1961).
- [37] Hoover, A. E., Nagata, I., Leland, T. W., and Kobayashi, R., Virial coefficients of methane, ethane and their mixtures at low temperatures, J. Chem. Phys. 48, No. 6, 2633 (1968).
- [38] Hust, J. G. and McCarty, R. D., Curve-fitting techniques and applications to thermodynamics, Cryogenics 7, No. 4, 200 (1967).
- [39] Jansoone, V., Gielen, H., de Boelpaep, J., and Verbeke, O. B., The pressure-temperature-volume relationship of methane near the critical point, Physica 46, 213 (1970).
- [40] Jones, M. L., Jr., Mage, D. T., Faulkner, R. C., Jr., and Katz, D. L., Measurement of the thermodynamic properties of gases at low temperature and high pressure-methane. Chem. Eng. Progr. Symposium Ser. 59, No. 44, 52 (1963).
- [41] Kvalnes, H. M. and Gaddy, V. L., The compressibility isotherms of methane at pressures to 1000 atmospheres and at temperatures from -70 to 200 °C, J. Amer. Chem. Soc. 53, 394 (1931).
- [42] Macdonald, J.R., Review of some experimental and analytical equations of state, Rev. Mod. Phys. 41, 316 (1969).
- [43] Mani, N. and Venart, J. E. S., Thermal conductivity measurements on liquid and dense gaseous methane (120 to 400 K, 25 to 700 bar), paper G-5, Advances in Cryogenic Engineering 18, (1972).
- [44] Manzhelii, V. G., Tolkachev, A. M., and Gavrilko, V. G., Thermal expansion of solid CH₄ and CD₄, J. Phys. Chem. Solids 30, 2759 (1969).
- [45] Mather, A. E., Powers, J. E., and Katz, D. L., The direct determination of the effect of pressure on enthalpy of a mixture of methane and propane, AIChE J. 15, No. 1, 111 (1969).
- [46] Matthews, C. S. and Hurd, C. O., Thermodynamic properties of methane, Trans. Amer. Inst. Chem. Eng. 42, 55 (1946).
- [47] McCarty, R. D., Least squares computer subroutine, Unpublished Report, Nat. Bur. Stand., Boulder, Colorado, 3 Jan. 1972.
- [48] Mechtly, E. A., The international system of units, physical constants and conversion factors, NASA SP-7012, (National Aeronautics and Space Admin., Washington, D. C. 1964).
- [49] Michels, A. and Nederbragt, G. W., Isotherms of methane between 0 and 150°C for densities up to 225 Amagat, Physica III, No. 7, 569 (1936).

- [50] O'Farrell, P. M., The thermodynamic and transport properties of compressed liquid methane, S. M. Thesis, (Dept. Mech. Engineering, Cryogenic Engineering Lab., Massachusetts Inst. Technology, Cambridge, Mass. 02139, 1971).
- [51] Pope, G. A., Calculation of argon, methane, and ethane virial coefficients, Thesis, (Department of Chemical Engineering, Rice University, Houston, Texas, 1971).
- [52] Prydz, R. and Goodwin, R. D., Experimental melting and vapor pressures of methane, *J. Chem. Thermodyn.* 4, 127 (1972).
- [53] Ricci, F. P. and Scafè, E., Orthobaric density of CH₄ in the critical region, *Phys. Lett.* 29A, No. 11, 650 (1969).
- [54] Robertson, S. L. and Babb, S. E., Jr., PVT properties of methane and propane to 10 K bar and 200°C, *J. Chem. Phys.* 51, No. 4, 1357 (1969).
- [55] Rowlinson, J. S., Liquids and Liquid Mixtures, (Plenum Press, New York, N.Y., 1969).
- [56] Sengers, J. M. H. Levelt, Klein, M., and Gallagher, J. S., Pressure-Volume-Temperature relationships of gases: virial coefficients, (in press, American Institute of Physics Handbook).
- [57] Singer, J. R., Excess ultrasonic attenuation and volume viscosity in liquid methane, *J. Chem. Phys.* 51, No. 11, 4729 (1969).
- [58] Straty, G. C. and Goodwin, R. D., Dielectric constant and polarizability of saturated and compressed fluid methane, *Cryogenics* 13, 712 (Dec., 1973).
- [59] Strein, von K., Lichtenthaler, R. N., Schramm, B, and Schäfer, Kl., Messwerte des zweiten Virialkoeffizienten einiger gesättigter Kohlenwasserstoffe von 300-500 K, *Ber. Bunsenges Phys. Chem.* 75, No. 12, 1308 (1971).
- [60] Terry, M. J., Lynch, J. T., Bunclark, M., Mansell, K. R., and Staveley, L. A. K., The densities of liquid argon, krypton, xenon, oxygen, nitrogen, carbon monoxide, methane, and carbontetrafluoride along the orthobaric liquid curve, *J. Chem. Thermodyn.* 1, No. 4, 413 (1969).
- [61] Tester, H. E., Methane, in Thermodynamic Functions of Gases, Vol. 3, F. Din, Editor, (Butterworths Scientific Publications, London, 1961).
- [62] Tsonopoulos, C. and Prausnitz, J. M., Equations of state: A review for engineering applications, *Cryogenics* 9, No. 5, 315 (1969).
- [63] van Dael, W., van Itterbeek, A., Thoen, J., and Cops, A., Sound velocity measurements in liquid methane, *Physica* 31, 1643 (1965).
- [64] van Itterbeek, A., Thoen, J., Cops, A., and van Dael, W., Sound velocity measurements in liquid methane as a function of pressure, *Physica* 35, 162 (1967).
- [65] van Itterbeek, A., Verbeke, O. B., and Staes, K., Measurements on the equation of state of liquid argon and methane up to 300 kg cm⁻² at low temperatures, *Physica* 29, 742 (1963).
- [66] Vennix, A. J., Low temperature volumetric properties and development of an equation of state for methane, Thesis, (Department of Chemical Engineering, Rice University, Houston, Texas, 1965).

- [67] Verbeke, O. B., Representation of P-V-T data by means of a "universal" state equation for simple pure fluids, Paper G-6, Advances in Cryogenic Engineering 18, (1972).
- [68] Verbeke, O. B., The dielectric constant of fluid methane in the vicinity of the critical point, Unpublished manuscript, April, 1973.
- [69] Wagner, W., A method to establish equations of state exactly representing all saturated state variables applied to nitrogen, Cryogenics 12, 214, June 1972.
- [70] Wiebe, R. and Brevoort, M. J., The heat capacity of saturated liquid nitrogen and methane from the boiling point to the critical temperature, J. Amer. Chem. Soc. 52, 622 (1930).
- [71] Younglove, B. A., The specific heats C_{sat} and C_v of compressed liquefied methane, in Appendix G of NBSIR 73-300 (1 Feb., 1973)
- [72] Zagoruchenko, V. A. and Zhuravlev, A. M., Thermophysical properties of gaseous and liquid methane, Moscow, 1969, (National Technical Information Service, Springfield, Virginia, 22151).
- [73] Zudkevitch, D., (Esso Research and Engineering Co., Florham Park, N. J.), The importance of accuracy in physical and thermodynamic data to chemical plant design, Lecture at the NBS, Maryland Research Center, October 26, 1972. Submitted to Proceedings of the National Bureau of Standards.

Appendix A. Symbols and Units

Subscripts c and t refer to critical and liquid triple points.

Subscripts g and ℓ refer to saturated vapor and liquid.

Subscripts σ or s refer to liquid-vapor coexistence (usually the liquid).

α, β, δ	non-linear constants in the equation of state
$B, C, D,$	density-dependent coefficients in the equation of state
$C_v(\rho, T),$	molal heat capacity at constant volume, J/(mol·K)
$C_p(\rho, T),$	molal heat capacity at constant pressure, J/(mol·K)
$C_\sigma(T),$	molal heat capacity for saturated liquid, J/(mol·K)
$d,$	density, mol/ ℓ
$E(\rho, T),$	the internal energy, J/mol
$H(\rho, T),$	the enthalpy, J/mol
$J,$	the joule, 1 N·m,
$\ell,$	the liter, $10^{-3}\text{m}^3,$
mol,	16.043 grams of methane ($C^{12} = 12$ scale)
$P,$	pressure in bars, 1 bar = 10^5 N/m ²
$Q_{\text{vap}},$	ΔH_{vap} , the heat of vaporization, J/mol
$R,$	the gas constant, 8.31434 J/(mol·K), 0.0831434 bar- ℓ /(mol·K),
$\rho,$	d/d_t , density reduced at the liquid triple point
$\sigma,$	d/d_c , density reduced at the critical point
$S(\rho, T),$	the entropy, J/(mol·K)
$T,$	temperature, K, on the IPTS-1968, [1]
$v,$	$1/d$, molal volume, ℓ /mol
$W(\rho, T),$	the speed of sound, meters/second
$x,$	T/T_c , temperature reduced at the critical point
$Z,$	Pv/RT , the "compressibility factor"

Appendix B. Fixed-Point Values*

Triple Point

$$d_t = 0.01567865 \text{ mol/l, vapor}$$

$$d_t = 28.1470 \text{ mol/l, liquid}$$

$$P_t = 0.11590 \text{ atm}$$

$$= 0.117435675 \text{ bar}$$

$$T_t = 90.680 \text{ K (ITS-1968)}$$

Critical Point

$$d_c = 10.0 \text{ mol/l}$$

$$P_c = 45.98825 \text{ bar}$$

$$T_c = 190.555 \text{ K (ITS-1968)}$$

* These values were used for the thermodynamic computations exactly as given.

Appendix C. Conversion of Units

Reference [3]

Temperature,	1.8 Rankine (R) = 1 Kelvin, (K)	
Pressure,	14,69595 psi = 1 atm = 1.01325 bar	
Volume,	1 cu ft = 28.31685 liter, (ℓ)	
Mol. Wt., CH ₄ ,	1 mol = 16.043 gram, (g), (C ¹² scale)	
Mass,	1 lb (avoir.) = 453.5924 g	
Density, CH ₄ ,	1 lb/cu ft = 0.998 470 mol/ℓ	
Isochore slope,	1 PSI/R = 0.1241 056 bar/K	
Isotherm slope, CH ₄ ,	1 PSI·cu ft/lb = 0.0690 5319 bar·ℓ/mol	
Energy	1 BTU = 1054.350 joule, (J)	
Specific energy for methane,	1 BTU/lb = 37.291 055 J/mol	
Specific entropy and heat capacity for methane,	1 (BTU/lb)/R = 67.123 912 (J/mol)/K	
Speed of sound,	1 ft/s = 0.30480 m/s	

Appendix D. List of New Data

1. The melting pressures, [52].
2. The vapor pressures. [52]
3. Freezing liquid densities, [23].
4. Saturated liquid densities, [30].
5. Saturated vapor densities, [29].
6. P - ρ - T compressibility data [30].
7. P - ρ - T compressibility data [this report].
8. Dielectric constants on isotherms [29].
9. Dielectric constants for saturated liquid [29].
10. Dielectric constants for saturated vapor [29].
11. Specific heats $C_{\sigma}(T)$ for saturated liquid [71].
12. Specific heats $C_v(\rho, T)$ over a wide range [71].

05/14/73

```

PROGRAM METHERM5
C  COMPUTE METHANE THERMOFUNCTIONS, JANUARY, 1973.
COMMON B1,B2, C1,C2,C3,C4, E1,E2,E3
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSDT,DPMOT,DPDD,DPDR,DTSDR,DTHDR
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
COMMON/9/ CSAT
COMMON/99/ TI,EZZ, EZ,SZ,CVZ,HZ,CPZ
DIMENSION PP(99),CF(99),CY(99)
1  FORMAT(I7, F9.3, 55X F8.3)
2  FORMAT(1H1 17X *COMPARISON OF METHANE CSAT, J/MOL/K * //
1  18X 2HID 7X3HT,K 5X+HCSAT 6X4HCALC 6X4HPCNT)
3  FORMAT(15X I5, 3F10.3, F10.2)
4  FORMAT(2X 13F6.0)
5  FORMAT(1X)
6  FORMAT(I5, F8.0, 15X F9.0, F8.0, F9.0)
7  FORMAT(1H1 17X *COMPARISON OF METHANE CV, J/MOL/K * //
1  18X 2HID 7X3HT,K 5X5HP,3AR 5X5HMOL/L 4X6HC,XPTL 4X6HC,CALC
2  6X4HPCNT)
8  FORMAT(15X I5, 5F10.3, F10.2)
9  FORMAT(1H1 44X *COMPARISONS OF CP(J/MOL/K) FOR METHANE* //
1  13X 7HP,BAR = 13F8.2/ 13X 4HT, K )
10 FORMAT(1H0 9X F10.3, 13F3.2)
11 FORMAT(20X 13F8.2)
12 FORMAT(1H1 16X *COMPARISON, SPEEDS OF SOUND, SATURATED LIQUID METH
1  ANE*//17X3HT,K 5X5HP,BAR 5X5HMOL/L 5X5HM/SEC 5X5HCALCD 6X4HPCNT)
13 FORMAT(1H1 15X *COMPARISON, SPEEDS OF SOUND, COMPRESSED LIQUID MET
1  HANE*//17X3HT,K 5X5HP,BAR 5X5HMOL/L 5X5HM/SEC 5X5HCALCD 6X4HPCNT)
14 FORMAT(10X F10.2, 2F10.3, 2F10.1, F10.2)
15 FORMAT(8F10.0)
16 FORMAT(///////// 1H1 18X *METHANE ISOBAR AT P =*F6.1, 4H 9AR//
1  19X 1HT 6X3HDEN 6X34VOL 5X5HDP/DT 5X5HDP/DD 8X1HE 8X1HM 8X1HS
2  6X2HCV 6X2HCP 5X1HW /
3  15X 5HDEG K 4X5HMOL/L 4X5HL/MOL 5X5HBAR/K 1X9HBAR-L/MOL 4X5HJ/MOL
4  4X5HJ/MOL 2X7HJ/MOL/K 1X7HJ/MOL/K 1X7HJ/MOL/K 1X5HM/SEC )
17 FORMAT(10X F10.3, F9.3, F9.5, F10.4, F10.3, 2F9.1,F9.3,2F8.2,F6.0)
18 FORMAT(10X F10.3, F9.5, F9.3, F10.6, F10.3, 2F9.1,F9.3,2F8.2,F6.0)
C
C  CONSTANTS OF EQNSTATE-8, 5/11/73, AT 10.45, NF = 9.
C  NOTE ARBITRARY CONSTANT, DE, IN PSI, XEF(T,D).
20 TTRP=90.680 $ DTRP=23.147 $ PTRP=0.117435675
21 TCRT=190.555 $ DCRT=10.0) $ PCRT=PSATF(TCRT)
22 AG=AL=0.2 $ BE=7 $ DE=1 $ GKK=0.0831434 $ GK=DTRP*GKK
23 B1 = 1.599101971 $ B2 = 2.483786733 $ C1 = -1.076088155
24 C2 = 10.48219275+ $ C3 = -22.556715826 $ C4 = 12.289665719
25 E1 = 0.993750233 $ E2 = -1.243035021 $ E3 = 0.318523715
28 QP=1.01325 $ EZZ=4.1363*2191.3 $ WK=100000/16.043
29 QPP = 14.69595/QP $ TA = 174.516 $ TB = 220
C
C  DERIVE THE J-T INVERSION CURVE.
99 CALL JTLOCUS
C  TABULATE THE SATURATED LIQUID FUNCTIONS.
100 CALL TABLIQ
C
C  COMPUTE THERMOFUNCTIONS ON ISOBARS -

```



```

C   EVERY ISOBAR STARTS ON THE MELTING LINE AT T UNDER TCRT.
C   ISOBARS AT P UNDER PCRT TRAVERSE THE DOME.
C   SPECIAL CASES FOR REGION X AT TA=TB, DEN ABOVE DCRT.
C   LET THE FIRST ISOBAR BE AT P = PTRP.
149 NI = 67 $ PP(1) = PTRP
150 READ 15, (PP(I),I=2,NI)
151 DO 300 I=1,NI $ P = PP(I) $ PRINT 16, P
152 CALL MELTHERM $ V = 1/DEN
153 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W
154 IT = T/5 $ IF(P.LT.PCRT) 155,200
C
C   CASES FOR P LESS THAN PCRT.
155 TS = FINDTSF(P) $ TX = TS+5 $ K = L = 0
156 DO 199 J=1,99 $ T = JT = 5*(IT+J)
157 IF(T.LT.TA) 158,175
C   NORMAL CASES FOR P UNDER PCRT, T UNDER TA.
158 IF(T.LT.TS) 159,161
C   CASE FOR COMPRESSED LIQUID AT T UNDER TA.
159 CALL THRMOLIQ $ V = 1/DEN
160 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ GO TO 199
161 IF(T.LT.TX) 162,183
C   CASE FOR SATURATED LIQUID AND VAPOR.
162 IF(I.EQ.1) 163,164
163 PRINT 5 $ GO TO 165
164 CALL SATLQTRM $ V = 1/DEN
165 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ PRINT 5
166 CALL SATGSTRM $ V = 1/DEN
167 IF(P.LT.20.0) 168,169
168 PRINT 18, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ GO TO 170
169 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W
170 T = JT $ GO TO 183
C   CASES FOR P UNDER PCRT, T OVER TA, IN REGION X.
175 IF(T.LT.TS) 176,178
C   CASE FOR COMPR. LIQ. AT TA = T = TSAT IN REGION X.
176 CALL THERMOX $ V = 1/DEN
177 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ GO TO 199
178 IF(T.LT.TX) 179,183
C   CASE FOR SAT.LIQ. IN REGION X, AND SAT. VAPOR.
179 CALL THERMXL $ V = 1/DEN
180 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ PRINT 5
181 CALL SATGSTRM $ V = 1/DEN
182 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ T = JT
C   CASES FOR HOMOGENEOUS DOMAIN, D UNDER DG, OR T OVER TC.
183 IF(JT-300) 188,188,134
184 K = K+1 $ T = JT = JT + 5*K
185 IF(JT-400) 188,188,136
186 L = L+1 $ T = JT = JT + 10*L
187 IF(JT-500) 188,188,300
188 CALL THRMOGAS $ V = 1/DEN
189 IF(P.LT.20.0) 190,191
190 PRINT 18, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ GO TO 199
191 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W
199 CONTINUE
C
C   CASES FOR P GREATER THAN PCRT.

```

```

200 K=L=0 $ DO 230 J=1,99 $ T=JT=5*(IT+J) $ IF(T.LT.TB) 201,220
201 IF(T.LT.TA) 202,205
202 CALL THRMOLIQ $ V = 1/DEN
203 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ GO TO 230
205 IF(T.LT.TCRT) 211,206
206 PX = PVT(T,DCRT) $ IF(P.GT.PX) 211,225
C CASE FOR REGION X AT TA = T = TB, P ABOVE CRITICAL ISOCHORE.
211 CALL THERMOX $ V = 1/DEN
212 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W $ GO TO 230
C CASES FOR HOMOGENEOUS DOMAIN, D UNDER DG, OR T OVER TC.
220 IF(JT-300) 225,225,221
221 K = K+1 $ T = JT = JT + 5*K
222 IF(JT-400) 225,225,223
223 L = L+1 $ T = JT = JT + 10*L
224 IF(JT-500) 225,225,300
225 CALL THRMOGAS $ V = 1/DEN
226 PRINT 17, T,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W
230 CONTINUE
300 CONTINUE
999 STOP $ END

```

SUBROUTINE JTLOCUS

```

C DERIVE THE J-T INVERSION CURVE. USE ROUTINE DELTAF(T,DI).
  DIMENSION TT(99),PP(99),DN(99)
  DATA (DCRT=10.0),(TCRT=130.555)
  1 FORMAT(1H1 16X *THE JOULE-THOMSON INVERSION LOCUS FOR METHANE*//
  1 17X3HT,K 5X5HP,BAR 5X5HMOL/L 7X3HT,K 5X5HP,BAR 5X5HMOL/L)
  2 FORMAT(10X F10.0, 2F10.2, F10.0, 2F10.2)
  9 PRINT 1 $ DO 25 I=1,58 $ T = 155 + 5*I $ DX = 1.6
  10 DI = DCRT*(2.70816 - 0.70253*T/TCRT) $ IF(T-TCRT) 11,12,12
  11 DL = DENLIQF(T) $ IF(DI-DL) 25,12,12
  12 SS = DELTAF(T,DI)
  13 DO 20 IT=1,15
  14 D=DI-DX $ SL=DELTAF(T,D) $ D=DI+DX $ SP=DELTAF(T,D)
  15 IF(SS-SL) 18,16,16
  16 IF(SP-SL) 19,17,17
  17 SS = SL $ DI = DI - DX $ GO TO 20
  18 IF(SS-SP) 20,20,19
  19 SS = SP $ DI = DI + DX
  20 DX = DX/2 $ D = DI $ P = PVT(T,D)
  21 IF(T-TCRT) 22,23,23
  22 PS = PSATF(T) $ IF(P-PS) 25,23,23
  23 TT(I)=T $ PP(I)=P $ DN(I)=D
  25 CONTINUE
  26 DO 29 J=1,34
  29 PRINT 2, TT(J),PP(J),DN(J), TT(J+34),PP(J+34),DN(J+34)
  30 RETURN $ END

```

FUNCTION DELTAF(T,D)

```

C GET (T*DP/DT - D*DP/DD) FOR THE J-T INVERSION CURVE.
  COMMON/3/DPDT,D2PDT2,DPSJT,DPMDT,DPDD,DPDR,DTSDR,OTHDR
  DATA (DCRT=10.0),(TCRT=130.555)
  1 IF(T-TCRT) 2,4,4
  2 DL = DENLIQF(T) $ IF(D-DL) 3,4,4
  3 DELTAF = 1.0E+010 $ RETURN
  4 P = PVT(T,D) $ PX = OPDRF(T,D)
  5 DELTAF = ABSF(T*DPDT-D*DPDD) $ RETURN $ END

```

SUBROUTINE TABLIQ

```

C   TABULATE THE SATURATED LIQUID FUNCTIONS.
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
      COMMON/3/DPDT,D2PDT2,DPSDT,OPMDT,OPDD,OPDR,DTSDR,DTHDR
      COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
      COMMON/9/ CSAT
1   FORMAT(1H1 13X *PROPERTIES OF SATURATED LIQUID METHANE* / )
2   FORMAT(14X1HT 7X1HP 5X3HDEN 4X5HV,GAS 4X5HV,LIQ 3X5HDP/DT
   1 3X6HDDL/DT 3X5HQ,VAP 7X1HE 7X1HH 7X1HS 6X2HCV 6X2HCS 6X2HCP6X1HW/
   2 10X5HDEG K 5X3H8AR 3X5H4OL/L 4X5HL/MOL 4X5HL/MOL 3X5H8AR/K
   3 2X7HMOL/L/K 3X5HJ/MOL 3X5HJ/MOL 3X5HJ/MOL 1X7HJ/MOL/K
   5 1X7HJ/MOL/K 1X7HJ/MOL/K 1X7HJ/MOL/K 2X5HM/SEC )
3   FORMAT(7X 3F8.3, F9.4, F9.5, F8.4, F9.4, 3F8.1, F8.3, 3F8.2, F7.0)
9   TA = 174.516 $ PRINT 1 $ PRINT 2
10  DO 30 J=1,52 $ IF(J.EQ.1) 11,12
11  TT = TTRP $ GO TO 15
12  IF(J.EQ.52) 13,14
13  TT=TCRT $ DG=DL=DCRT $ VG=VL=1/DG $ GO TO 17
14  TT = 88 + 2*J
15  DG = FINDSATF(TT,0) $ VG = 1/DG
16  DL = FINDSATF(TT,1) $ VL = 1/DL
17  PS = PSATF(TT) $ Q = 100*TT*DPSDT*(VG-VL)
18  IF(TT.LT.TA) 19,21
19  S = SSATF(TT) $ E = ESATF(TT) $ H = E + 100*PS*VL
20  GO TO 23
21  P = PS $ CALL THER1XL $ IF(J.EQ.52) 22,23
22  DDLDT=CSAT=CV=CP=W=0 $ GO TO 30
23  PX=PVTF(TT,DL) $ PX=OPDRF(TT,DL) $ DDLDT = DTRP/DTSDR
24  CV = CSAT + 100*TT*OPDT*DDLDT/DL**2
25  CP = CV + 100*TT*OPDD*(OPDT/DL)**2
26  W = SQRTF(WK*CP*OPDD/CV)
30  PRINT 3, TT,PS,DL,VG,VL, DPSDT,DDLDT, Q,E,H,S, CV,CSAT,CP,W
99  RETURN $ END

```

FUNCTION FINDTMF(P)

```

C   GIVEN MELTING PRESSURE P, ITERATE T TO MINIMIZE (P-PC).
      COMMON/3/DPDT,D2PDT2,DPSDT,OPMDT,OPDD,OPDR,DTSDR,DTHDR
1   FORMAT(1H0 9X *FINDTMF = 0, FAILS TO CONVERGE) * / )
2   T = 100 $ DO 6 J=1,50 $ DP = P-PMELTF(T) $ ADP = ABSF(DP)
3   IF(ADP/P-1.0E-6) 7,7,4
4   IF(ADP/OPMDT/T-1.0E-5) 7,7,5
5   T = T + DP/OPMDT
6   CONTINUE $ FINDTMF = 0 $ PRINT 1 $ RETURN
7   FINDTMF = T $ RETURN $ END

```

FUNCTION FINDTSF(P)

```

C   GIVEN VAPOR PRESSURE P, ITERATE T TO MINIMIZE (P-PC).
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
      COMMON/3/DPDT,D2PDT2,DPSDT,OPMDT,OPDD,OPDR,DTSDR,DTHDR
1   FORMAT(1H0 9X *FINDTSF = 0, FAILS TO CONVERGE. * / )
2   FORMAT(1H0 9X *FINDTSF = 0, P EXCEEDS PCRT. * / )
3   IF(P-PCRT) 4,11,12
4   T = 150 $ DO 9 J=1,50 $ DP = P - PSATF(T) $ ADP = ABSF(DP)
5   IF(ADP/P-1.0E-6) 10,10,6
6   IF(ADP/DPSDT/T-1.0E-5) 10,10,7
7   T = T + DP/DPSDT $ IF(T-TCRT) 9,9,8
8   T = TCRT
9   CONTINUE $ FINDTSF = 0 $ PRINT 1 $ RETURN
10  FINDTSF = T $ RETURN
11  FINDTSF = TCRT $ RETURN
12  FINDTSF = 0 $ PRINT 2 $ RETURN $ END

```

05/14/73

```

      FUNCTION FINDENF(T,P)
C      ON ISOTHERM T, FIND DEN, MOL/L, TO MINIMIZE (P-PC) VIA EQNSTATE.
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
      COMMON/3/DPDT,D2PDT2,DPSDT,DPMDT,DPDD,DPDR,DTSDR,DTHDR
41  FORMAT(1H0 9X *FINDENF = 0, FAILS TO CONVERGE. * / )
42  FORMAT(1H0 9X *FINDENF = DCRT, DP/DR ZERO OR NEG. * / )
43  FORMAT(1H0 9X *FINDENF = 0, DOUBLE-VALUED AT P = PSAT. * / )
      1 DM = DTRP*(T/TTRP)**0.25 $ IF(T-TCRT) 2,5,8
      2 DG=FIJDSATF(T,0) $ DL=FIJDSATF(T,1) $ PS=PSATF(T) $ IF(P-PS) 3,32,4
      3 D = DG/2 $ GO TO 11
      4 D = (DL+DM)/2 $ GO TO 11
      5 DG=DL=DCRT $ PS=PCRT $ IF(P-PS) 6,33,7
      6 D = DCRT/2 $ GO TO 11
      7 D = 2*DCRT $ GO TO 11
      8 IF(T.LT.300.0) 9,10
      9 PC = PVTF(T,DCRT) $ IF(P-PC) 6,33,7
10  D = DCRT
11  DO 30 J=1,50 $ DP=P-DPDRF(T,0) $ IF(ABSF(DP/P)-1.0E-6) 31,31,12
12  IF(DPDD) 34,34,13
13  DD = DP/DPDD $ IF(ABSF(DD/D)-1.0E-5) 31,31,14
14  D = D + DD $ IF(D.GT.0.001) 16,15
15  D = 0.001 $ GO TO 30
16  IF(D.GT.DM) 17,18
17  D = DTRP $ GO TO 30
18  IF(T-TCRT) 19,24,30
19  IF(P.LT.PS) 20,22
20  IF(D.GT.DG) 21,30
21  D = DG $ GO TO 30
22  IF(D.LT.DL) 23,30
23  D = DL $ GO TO 30
24  IF(P.LT.PCRT) 25,27
25  IF(D.LT.DCRT) 30,26
26  D = DCRT - 0.02 $ GO TO 30
27  IF(D.GT.DCRT) 30,28
28  D = DCRT + 0.02
30  CONTINUE $ FINDENF = 0 $ PRINT 41 $ RETURN
31  FINDENF = D $ RETURN
32  FINDENF = 0 $ PRINT 43 $ RETURN
33  FINDENF = DCRT $ RETURN
34  FINDENF = DCRT $ PRINT 42 $ RETURN $ END

```

05/14/73

```

      FUNCTION DENGASF(T)
C      DENSITIES OF SATURATED METHANE VAPOR, MOL/L.
C      LN(D/DC) = A1*W**E + A2*W + A3*Q**4 + A4*Q**5 + A5*U*W.
C      U = (TC/T-1)/(TC/TT-1), W = (TC-T)/(TC-TT).
      DIMENSION A(5)
      DATA (TTRP=90.68),(TCRT=190.555),(DCRT=10.0),(E=0.46)
      DATA(A = -2.7036003, 3.1561552, -8.6573409, 3.2640362, -3.5269034)
1  FORMAT(1H0 9X *DENGASF = 0, T EXCEEDS TCRT.*/)
2  IF(T-TCRT) 3,7,8
3  U=(TCRT/T-1)/(TCRT/TTRP-1) $ W=(TCRT-T)/(TCRT-TTRP) $ Q=CUBERTF(W)
5  F = A(1)*W**E + A(2)*W + A(3)*Q**4 + A(4)*Q**5 + A(5)*U*W
6  DENGASF = DCRT*EXP(F) $ RETURN
7  DENGASF = DCRT $ RETURN
8  DENGASF = 0 $ PRINT 1 $ RETURN $ END

```


05/14/73

```

FUNCTION FINDSATF(T,1)
C   ITERATE DEN TO MINIMIZE (T-TS) VIA TSATF(DEN).
C   M = 0 FOR VAPOR, M = 1 FOR LIQUID.
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSJT,DPMOT,DPDD,DPDR,OTSDR,OTHOR
1  FORMAT(1H0 9X *FINDSATF = 0,  FAILS TO CONVERGE.* / )
2  FORMAT(1H0 9X *FINDSATF = 0,  T EXCEEDS TCRT.* / )
3  IF(T-TCRT) 4,22,23
4  IF(M.EQ.0) 5,6
5  D = DENGASF(T)  $  GO TO 7
6  D = DENLIQF(T)
7  DO 20 J=1,50  $  DT=T-TSATF(D)  $  IF(ABSF(DT/T)-1.0E-6) 21,21,8
8  DTDD = OTSDR/DTRP  $  IF(DTDD.EQ.0.0) 22,9
9  DD = DT/DTDD  $  IF(ABSF(DD/D)-1.0E-6) 21,21,10
10 D = D + DD  $  IF(M.EQ.0) 11,15
11 IF(D.GT.0.001) 13,12
12 D = 0.001  $  GO TO 20
13 IF(D.LT.DCRT) 20,14
14 D = DCRT - 0.02  $  GO TO 20
15 IF(D.GT.30.0) 16,17
16 D = 30.0  $  GO TO 20
17 IF(D.GT.DCRT) 20,18
18 D = DCRT + 0.02
20 CONTINUE  $  FINDSATF = 0  $  PRINT 1  $  RETURN
21 FINDSATF = 0  $  RETURN
22 FINDSATF = DCRT  $  RETURN
23 FINDSATF = 0  $  PRINT 2  $  RETURN  $  END

```

05/14/73

```

FUNCTION DENLIQF(T)
C   DENSITIES OF SATURATED LIQUID METHANE, MOL/L.
C    $(D-DC)/(DT-DC) = (W**E)*EXP(A*(1-Q2) + B*(1-Q4) + C*(1-W2)).$ 
C    $W = (TC-T)/(TC-TT), \quad Q = CUBERTF(W).$ 
DATA (TTRP=90.68),(TCRT=190.555),(DCRT=10.0),(DTRP=28.147)
DATA (E=0.36),(A=-0.178850165),(B=0.04838475),(C=-0.01848937)
1  FORMAT(1H0 9X *DENLIQF = 0,  T EXCEEDS TCRT.* / )
2  IF(T-TCRT) 3,7,8
3  W = (TCRT-T)/(TCRT-TTRP)  $  Q = CUBERTF(W)
5  F = A*(1-Q**2) + B*(1-Q**4) + C*(1-W**2)
6  DENLIQF = DCRT + (DTRP-DCRT)*EXP(F)*W**E  $  RETURN
7  DENLIQF = DCRT  $  RETURN
8  DENLIQF = 0  $  PRINT 1  $  RETURN  $  END

```

05/14/73

```

FUNCTION PMELTF(T)
C   METHANE SOLID-LIQUID MELTING PRESSURE, BAR.
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSJT,DPMOT,DPDD,DPDR,OTSDR,OTHOR
DATA (QP=1.01325),(E=1.85),(A=1884.43)
1  X = T/TTRP  $  XE = X**E  $  AQ = A*QP
2  PMELTF = PTRP + AQ*(XE-1)
3  DPMOT = AQ*E*XE/X/TTRP  $  RETURN  $  END

```


05/14/73

```

FUNCTION PSATF(T)
C METHANE VAPOR PRESSURE VIA PRYDZ/GOODWIN DATA, NOV., 1970.
C NOTE, PRESSURE IN BARS, 1.01325 BAR/ATM.
COMMON/3/DPDT,D2PDT2,DPSDT,DPMOT,DPOD,DPDR,DTSOR,DTHDR
DATA(TTRP=90.68),(TCRT=130.555),(PTRP=0.117435675)
DATA(P1=4.77748580),(P2=1.76065363),(P3=-0.56788894)
DATA(P4=1.32786231)
1 FORMAT(1H0 9X *PSATF = 0, T EXCEEDS TCRT.*/)
2 XK=1-TTRP/TCRT $ X=(1-TTRP/T)/XK $ Q=1-X $ IF(Q) 3,4,5
3 PSATF = DPSDT = 0 $ PRINT 1 $ RETURN
4 W = W1 = 0 $ GO TO 6
5 U=SQRTF(Q) $ W=Q*U $ W1=-3*U/2
6 DXDT=TTRP/XK/T**2 $ Z = X*W $ Z1 = X*W1 + W
7 F = P1*X + P2*X**2 + P3*X**3 + P4*Z
8 F1 = P1 + 2*P2*X + 3*P3*X**2 + P4*Z1
9 PSATF=PTRP*EXP(F) $ DPSDT=F1*PSATF*DXDT $ RETURN $ END

```

05/14/73

```

FUNCTION TSATF(DEN)
C LIQUID-VAPOR SATURATION TEMPERATURES OF METHANE.
C NOTE EXPONENTIAL U(S). EQN., (TC/T-1)/(TC/TT-1) = U(S)*Z(R).
C U(S) = EXP(FS/2), FS = S*(S-ST)/AES(S-1), Z(R) = 1+(R-1)*W(R),
C W = A1 + A2*LN(R) + A3*Q + A4/(1+E*Q2) + A5*R + . . . + A10*R6.
COMMON/3/DPDT,D2PDT2,DPSDT,DPMOT,DPOD,DPDR,DTSOR,DTHDR
DIMENSION A(10)
DATA(E = 8.0)
DATA(TTRP=90.68),(TCRT=130.555),(DCRT=10.0),(DTRP=28.147)
DATA(A = 0.84320686, 0.15972304, 0.97837869, 0.28654081,
1 -1.71505402, 10.88633503, -32.42048700, 63.1616459,
2 -62.72090242, 25.92498131)
1 R=DEN/DTRP $ S=DEN/DCRT $ QS = S-1 $ IF(QS.EQ.0.0) 30,2
2 AS = ABSF(QS) $ ST=DSOR=DTRP/DCRT $ YN = TCRT/TTRP - 1
3 X = S*(S-ST) $ X1 = 2*S - ST $ V = 1/AS $ V1 = -V/QS
4 FS = X*V $ FS1 = (X*V1 + X1*V)*DSOR
5 U = EXPF(FS/2) $ U1 = J*FS1/2 $ Q = CUBERTF(R) $ Q2 = Q**2
6 X = 1/(1+E*Q2) $ X1 = -2*E/3/Q*X**2
7 W = A(1) + A(2)*LOGF(R) + A(3)*Q + A(4)*X
8 W1 = A(2)/R + A(3)/3/Q2 + A(4)*X1
9 DO 10 K=5,10 $ W = W + A(K)*R**(K-4)
10 W1 = W1 + (K-4)*A(K)*R**(K-5)
11 Z = 1 + W*(R-1) $ Z1 = W + (R-1)*W1
12 F = U*Z $ F1 = U*Z1 + U1*Z $ X = 1 + YN*F
13 TSATF = TCRT/X $ DTSOR = -YN*F1*TSATF/X $ RETURN
30 TSATF = TCRT $ DTSOR = 0 $ RETURN $ END

```

05/14/73

```

FUNCTION CVGF(T)
C METHANE CV, J/MOL/K, ALONG THE 18.5 MOL/L ISOCHORE.
C CV/CVZ = 1 + A/X + B/X2 + C/X3/(X-1)**E, X = T/TH.
COMMON/99/TH,EZZ,EZ,SZ,CVZ,HZ,CPZ
DATA(E=0.1),(TH=164.1171),(G=0.9737)
DATA(A=0.47294996),(B=-0.50271717),(C=0.21421338)
1 TH = T $ CALL IDEAL $ X = T/TH $ X3 = X**3
2 F = A/X + B/X**2 + C/X3/(X-1)**E
3 CVGF = G*CVZ*(1+F) $ RETURN $ END

```

05/14/73

```

      FUNCTION PVTF(T,DEN)
C   VIA EQNSTATE, YIELDS P,BAR, ALSO DP/DT, D2P/DT2.
      COMMON B1,B2, C1,C2,C3,C4, E1,E2,E3
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
      COMMON/3/DPDT,D2PDT2,DPSJT,DPMDT,OPDD,DPDR,DTSDR,OTHDR
      COMMON/4/XB1,XB2,XC1,XC2,XD1,XD2,XE1,XE2
      COMMON/5/TSAT, DXBDR,DXCJR,DXDDR,DXEDR
      1 S=DEN/DCRT $ R=DEN/DTRP $ R2=R**2 $ R3=R**3
      2 TS = TSAT = TSATF(DEN) $ PS = PSATF(TS)
      3 XB = XBf(T,DEN) $ XC = XCF(T,DEN) $ XE = XEF(T,DEN)
      5 B = B1 + B2*R $ C = C1 + C2*R + C3*R2 + C4*R3
      6 E = (S-1)*(E1 + E2*R + E3*R2)
      9 F = B*XB + C*XC + E*XE $ F1 = B*XB1 + C*XC1 + E*XE1
      11 F2 = B*XB2 + C*XC2 + E*XE2 $ YS = (PS/R/GK/TS - 1)*TS/TCRT/R
      15 PVTF = (T+R*(F+YS)*TCRT)*R*GK $ DPDT = (1+R*F1)*R*GK
      17 D2PDT2 = R2*GK*F2/TCRT $ RETURN $ END

```

05/14/73

```

      FUNCTION DPDRF(T,DEN)
C   VIA EQNSTATE, DPDRF = P,BAR. YIELDS ALSO DP/DR, DP/DD.
      COMMON B1,B2, C1,C2,C3,C4, E1,E2,E3
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
      COMMON/3/DPDT,D2PDT2,DPSJT,DPMDT,OPDD,DPDR,DTSDR,OTHDR
      COMMON/5/TSAT, DXBDR,DXCJR,DXDDR,DXEDR
      1 X = T/TCRT $ S=DEN/DCRT $ DSDR = DTRP/DCRT
      2 R = DEN/DTRP $ R2=R**2 $ R3=R**3
      3 TS=TSAT=TSATF(DEN) $ XS=TS/TCRT $ PS=PSATF(TS)
      4 XB = XBf(T,DEN) $ XC = XCF(T,DEN) $ XE = XEF(T,DEN)
      5 B = B1 + B2*R $ CD = B2
      6 C = C1 + C2*R + C3*R2 + C4*R3 $ CD = C2 + 2*C3*R + 3*C4*R2
      8 U = S-1 $ V = E1 + E2*R + E3*R2 $ V1 = E2 + 2*E3*R
      9 E = U*V $ ED = U*V1 + V*DSDR $ F = B*XB + C*XC + E*XE
      11 F1 = B*DXBDR + BD*XB + C*DXCJR + CD*XC + E*DXEDR + ED*XE
      15 YS = (PS/R/GK/TS-1)*XS/R
      16 YS1 = (TS - R*DTSDR + (DPSDT*DTSDR - 2*PS/R)/GK)/TCRT
      17 Q = R*(F+YS)/X $ DPDR = GK*T*(1+2*Q+(R2*F1+YS1)/X)
      20 OPDD = DPDR/DTRP $ DPDRF = R*GK*T*(1+Q) $ RETURN $ END

```

05/14/73

```

      FUNCTION THETAF(DEN)
C   LOCUS OF TEMPS., INSIDE THE DOME, FOR THE EQNSTATE.
C   THETA = TSAT*EXP(U(S)).
C   IF S < 1, U = AG*(S-1)**3. IF S > 1, U = -AL*(S-1)**3.
C   YIELDS ALSO THE FIRST DERIVATIVE RSP. TO RHOEDEN/DTRP.
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
      COMMON/3/DPDT,D2PDT2,DPSJT,DPMDT,OPDD,DPDR,DTSDR,OTHDR
      COMMON/5/TSAT, DXBDR,DXCJR,DXDDR,DXEDR
      1 S = DEN/DCRT $ DSDR = DTRP/DCRT
      2 Q=S-1 $ Q2=Q**2 $ Q3=Q**3 $ IF(Q) 3,8,4
      3 U = AG*Q3 $ U1 = 3*AG*Q2*DSDR $ GO TO 5
      4 U = -AL*Q3 $ U1 = -3*AL*Q2*DSDR
      5 XP = EXPF(U) $ THETAF = TSAT*XP
      7 OTHDR = (TSAT*U1 + DTSDR)*XP $ RETURN
      8 THETAF = TCRT $ OTHDR = 0 $ RETURN $ END

```

05/14/73

```

      FUNCTION XBF(T,D)
C     FOR THE EQUATION OF STATE -
C     XB = X*(1-EXP(-BE/X)) - XS*(1-EXP(-BE/XS)).
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,ITRP
      COMMON/3/DPDT,D2PDT2,DPSJT,OPMDT,OPDD,OPDR,DTSDR,OTHDR
      COMMON/4/XB1,XB2,XC1,XC2,XD1,XD2,XE1,XE2
      COMMON/5/TSAT, DXBDR,DXCDR,DXDDR,DXEDR
1     X=T/TCRT $ XS=TSAT/TCRT $ DXSDR=DTSDR/TCRT
2     U = BE/X $ U1 = -U/X $ U2 = -2*U1/X
3     US = BE/XS $ US1 = -US/XS
4     XP=EXPF(-U) $ Z = 1-XP $ Z1=U1*XP $ Z2=(U2-U1**2)*XP
5     PHI = X*Z $ XB1 = Z+X*Z1 $ XB2 = X*Z2 + 2*Z1
6     XPS=EXPF(-US) $ ZS = 1-XPS $ ZS1 = US1*XPS
7     PHS = XS*ZS $ DXBDR = -(XS*ZS1+ZS)*DXSDR
8     XBF = PHI - PHS $ RETURN $ END

```

05/14/73

```

      FUNCTION XCF(T,D)
C     FOR THE EQUATION OF STATE -
C     XCF = 1/X - 1/XS, X = T/TC.
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,ITRP
      COMMON/3/DPDT,D2PDT2,DPSJT,OPMDT,OPDD,OPDR,DTSDR,OTHDR
      COMMON/4/XB1,XB2,XC1,XC2,XD1,XD2,XE1,XE2
      COMMON/5/TSAT, DXBDR,DXCDR,DXDDR,DXEDR
1     X = T/TCRT $ XS = TSAT/TCRT
2     XCF = 1/X-1/XS $ XC1 = -1/X**2 $ XC2 = -2*XC1/X
3     DXCDR = DTSDR/TCRT/XS**2 $ RETURN $ END

```

05/14/73

```

      FUNCTION XEF(T,D)
C     NOTE CONSTANT IN PSI, W = DE*(U-1), Z = DE*(V-1).
C     PSI = (1-W*LN(1+1/W))/U, XEF = (PSI-PSISAT) = PW/U - PZ/V,
C     U = T/TH, W = DE*(U-1), V = TS/TH, Z = DE*(V-1).
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,ITRP
      COMMON/3/DPDT,D2PDT2,DPSJT,OPMDT,OPDD,OPDR,DTSDR,OTHDR
      COMMON/4/XB1,XB2,XC1,XC2,XD1,XD2,XE1,XE2
      COMMON/5/TSAT, DXBDR,DXCDR,DXDDR,DXEDR
1     TS = TSAT $ TH = THETA(T)
2     U = T/TH $ U2 = U**2 $ U3 = U**3
3     U1X = TCRT/TH $ U1R = -U*OTHDR/TH
4     W = DE*(U-1) $ W1X = DE*U1X $ W1R = DE*U1R
5     V = TS/TH $ V2 = V**2 $ V1 = (DTSDR-V*OTHDR)/TH
6     Z = DE*(V-1) $ Z1 = DE*V1 $ IF(W) 9,9,10
9     W=GW=GW1=GW2=0 $ GO TO 11
10    G=LOGF(1+1/W) $ GW=W*G $ GW1=G-1/(1+W) $ GW2=-1/W/(1+W)**2
11    PW=1-GW $ PW1X=-GW1*U1X $ PW1R=-GW1*W1R $ PW2X=-GW2*W1X**2
12    IF(Z) 13,13,14
13    Z=GZ=GZ1=0 $ GO TO 15
14    G = LOGF(1+1/Z) $ GZ = Z*G $ GZ1 = G - 1/(1+Z)
15    PZ = 1-GZ $ PZ1 = -GZ1*Z1
20    XEF = PW/U - PZ/V $ XE1 = PW1X/U - PW*U1X/U2
22    XE2 = PW2X/U - 2*PW1X*U1X/U2 + 2*PW*U1X**2/U3
23    DXEDR = PW1R/U - PW*U1R/U2 - PZ1/V + PZ*V1/V2
30    RETURN $ END

```

```

      SUBROUTINE IDEAL
C     METHANE IDEAL GAS THERMOFUNCTIONS(TI) AT ONE ATMOS.
      COMMON/99/ TI,EZZ, EZ,SZ,CVZ,HZ,CPZ
      DATA (R=8.3143),(E=5.02238),(AZ=18.852484),(A1=2.5996981),
1     (A2=1.4449418),(A3=-1.8472716),(A4=0.8211218),(A5=4.7207907)
1     X=TI/400 $ Q=CUBERTF(X) $ Q2=Q**2 $ U=E/X $ XP=EXP(X)
2     Z = U/(XP-1) $ EZ = A1 + A2*Q + A3*Q2 + A4*X + A5*Z
3     CVZ = A1 + 4*A2*Q/3 + 5*A3*Q2/3 + 2*A4*X + A5*XP*Z**2
4     FU = Z - LOGF(1-1/XP)
5     SZ = AZ + LOGF(TI/60) + A1*LOGF(X)
6     SZ = SZ + 4*A2*Q + 5*A3*Q2/2 + 2*A4*X + A5*FU
C     CONVERT TO DIMENSIONED RESULTS IN - JOULES,MOLES,KELVINS.
7     HZ = R*TI*(1+EZ) $ CPZ = R*(1+CVZ)
8     EZ = R*TI*EZ $ CVZ = R*CVZ $ SZ = R*SZ
9     RETURN $ END

      FUNCTION ESATF(T)
C     INTERNAL ENERGY, SATD.LIQ. METHANE, J/MOL.
C     EQN., Y(E) = (1-X)*EXP(A(X)), WHERE -
C     Y(E) = (E-ET)/(EC-ET), X(T) = (TC-T)/(TC-TT), AND -
C     W(X) = A1*X*LN(1+B/X) + A2*X**C + A3*X + . . . + A9*X7.
      DIMENSION A(9)
      DATA (TTRP=90.08),(TCRT=190.555),(B=0.1),(C=0.19)
      DATA (ETRP=3471.853),(ECRT=10819.568)
      DATA (A = -0.02940994, -0.19154778, -0.67454649, 3.11554755,
1     -9.71804579, 17.1576593, -16.50388861, 7.79262156, -1.36621087)
1     FORMAT(1H0 9X *ESATF = 0, T EXCEEDS TCRT. * / )
2     XN = TCRT-TTRP $ YN = ECRT-ETRP $ X = (TCRT-T)/XN
3     U = 1-X $ IF(X) 4,5,6
4     ESATF = 0 $ PRINT 1 $ RETURN
5     W = Z = 0 $ GO TO 7
6     W = X*LOGF(1+B/X) $ Z = X**C
7     F = A(1)*W + A(2)*Z $ DO 8 J=3,9
8     F = F + A(J)*X**(J-2)
9     ESATF = ETRP + YN*U*EXP(F) $ RETURN $ END

      FUNCTION SSATF(T)
C     ENTROPY AND CSAT, SATD.LIQ. METHANE, J/MOL/K. DEFINE -
C     X(T)=(TC-T)/(TC-TT), Y(S)=(S-ST)/(SC-ST), Q=X**(1/2).
C     EQN., Y(S) = (1-X)*EXP(A), WHERE -
C     W(X) = A1*X*LN(1+1/X) + A2*QQ + A3*Q + A4*X2 + . . . + A8*Y6.
      COMMON/9/ CSAT
      DIMENSION A(8)
      DATA (TTRP=90.08),(TCRT=190.555),(E=0.19)
      DATA (STRP=67.87832),(SCRT=120.46263)
      DATA (A = -0.15660939, -0.17271532, 0.06870234, 1.63743215,
1     -5.33121801, 9.06407137, -7.54347331, 2.43529834)
1     FORMAT(1H0 9X *SSATF = 0, T EXCEEDS TCRT. * / )
2     XN = TCRT-TTRP $ YN = SCRT-STRP $ X = (TCRT-T)/XN
3     U = 1-X $ DXDT = -1/XN $ IF(X) 4,5,6
4     SSATF = CSAT = 0 $ PRINT 1 $ RETURN
5     XG = Q = QQ = 0 $ GO TO 8
6     G = LOGF(1+1/X) $ XG = X*G $ XG1 = G-1/(1+X)
7     J=SQR(X) $ Q1=0.5/J $ QQ = X**E $ Q1 = E*QQ/X
8     F = A(1)*XG + A(2)*J + A(3)*Q $ DO 9 K=4,8
9     F = F + A(K)*X**(K-2) $ XP = EXP(F)
10    SSATF = STRP + YN*U*XP $ IF(X.EQ.0.0) 10,11
11    F1 = A(1)*XG1 + A(2)*Q1 + A(3)*Q1 $ DO 12 K=4,8
12    F1 = F1 + (K-2)*A(K)*X**(K-3)
14    CSAT = T*YN*(U*F1-1)*XP*DXDT $ RETURN
15    CSAT = 0 $ RETURN $ END

```


05/14/73

```

SUBROUTINE MELTHERM
C GIVEN P, GET T, DEN, ETC., FOR FREEZING LIQUID AT T L.T. TCRT.
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSDT,DPMOT,DPDD,OPOR,DTSOR,OTHOR
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
COMMON/9/ CSAT
1 T = FINDTMF(P) $ DL = FINDSATF(T,1)
2 E=ESATF(T) $ S=SSATF(T) $ PX=PVTf(T,DL) $ DDLOT=DTRP/DTSOR
3 CV = CSAT + 100*T*DPDT*DDLOT/DL**2
C NOW INTEGRATE FROM SAT.LIQU. UP TO THE FREEZING LIQUID.
4 DEN = DM = DTRP*(T/TTRP)**0.25 $ N = 4 + 5*(DM-DL)
5 E = E + ESUMF(N,T,DL,DM) $ H = E + 100*P/DM
6 S = S + SSUMF(0,N,T,DL,DM) $ CV = CV + CSUMF(N,T,DL,DM)
7 PX = PVTf(T,DM) $ PX = DPDRF(T,DM)
8 CP = CV + 100*T/DPDD*(DPDT/DM)**2
9 W = SQRTF(WK*CP*DPDD/CV) $ RETURN $ END

```

05/14/73

```

SUBROUTINE SATGSTRM
C GIVEN P, GET T, DEN, ETC., FOR THE SATURATED VAPOR.
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSDT,DPMOT,DPDD,OPOR,DTSOR,OTHOR
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
COMMON/99/TI,EZZ, EZ,SZ,CVZ,HZ,CPZ
DATA (DA=0.0),(QP=1.01325),(GC=0.0631434)
1 T = TI = FINDTSF(P) $ CALL IDEAL
2 DEN = DG = FINDSATF(T,0) $ N = 5 + 2*DG
3 E = EZZ + EZ + ESUMF(N,T,DA,DG) $ H = E + 100*P/DG
4 S = SZ - 100*GC*LOGF(GC*T*DG/QP) + SSUMF(1,N,T,DA,DG)
5 X = 0.02*(T-TCRT)**2 $ IF(X.LT.3.0) 6,7
6 N = N + 30*EXP(-X)
7 CV = CVZ + CSUMF(N,T,DA,DG)
8 PX = PVTf(T,DG) $ PX = DPDRF(T,DG)
9 CP = CV + 100*T/DPDD*(DPDT/DG)**2
10 W = SQRTF(WK*CP*DPDD/CV) $ RETURN $ END

```

05/14/73

```

SUBROUTINE SATLQTRM
C GIVEN P, GET T, DEN, ETC., FOR THE SATURATED LIQUID.
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSDT,DPMOT,DPDD,OPOR,DTSOR,OTHOR
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
COMMON/9/ CSAT
1 T = FINDTSF(P) $ DEN = DL = FINDSATF(T,1)
2 E = ESATF(T) $ S = SSATF(T) $ H = E + 100*P/DL
3 PX = PVTf(T,DL) $ PX = DPDRF(T,DL) $ DDLOT = DTRP/DTSOR
4 CV = CSAT + 100*T*DPDT*DDLOT/DL**2
6 CP = CV + 100*T/DPDD*(DPDT/DL)**2
9 W = SQRTF(WK*CP*DPDD/CV) $ RETURN $ END

```


SUBROUTINE THRMOGAS

```

C   GIVEN P,T, GET DEN AND FUNCTIONS FOR HOMOGENEOUS DOMAIN.
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSJT,DPMDT,DPDD,DPDR,DTSDR,DTHDR
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
COMMON/99/TI,EZZ, EZ,SZ,CVZ,HZ,CPZ
DATA (DA=0.0),(QP=1.01325),(GC=0.0831434)
1  TI = T $ CALL IDEAL
2  DEN = DB = FINDENF(T,P) $ N = 5 + 2*DB
3  E = EZZ + EZ + ESUMF(N,T,DA,DB) $ H = E + 100*P/DB
4  S = SZ - 100*GC*LOGF(GC*T*DB/QP) + SSUMF(1,N,T,DA,DB)
5  Q = (DB/DCRT-1)**3 $ QD = ABSF(Q) - Q
6  X = 0.02*(T-TCRT)**2 + 3*QD $ IF(X.LT.3.0) 7,8
7  N = N + 30*EXPF(-X)
8  CV = CVZ + CSUMF(N,T,DA,DB) $ PX = PVTF(T,DB)
9  PX = DPDRF(T,DB) $ CP = CV + 100*T/DPDD*(DPDT/DB)**2
10 W = SQRTF(WK*CP*DPDD/CV) $ RETURN $ END

```

SUBROUTINE THRMOLIQ

```

C   GIVEN P,T, GET DEN AND FUNCTIONS FOR COMPR.LIQ. AT T L.T. TCRT.
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSJT,DPMDT,DPDD,DPDR,DTSDR,DTHDR
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
COMMON/9/ CSAT
1  DL = FINDSATF(T,1) $ DEN = DB = FINDENF(T,P)
3  E=ESATF(T) $ S=SSATF(T) $ PX=PVTF(T,DL) $ DDLDT=DTRP/DTSDR
5  CV = CSAT + 100*T*DPDT*DDLDT/DB**2
C   NOW INTERGATE FROM SAT.LIQ. INTO THE COMPR. LIQUID.
6  N = 5 + 5*(DB-DL)
7  E = E + ESUMF(N,T,DL,DB) $ H = E + 100*P/DB
8  S = S + SSUMF(1,N,T,DL,DB)
9  CV = CV + CSUMF(N,T,DL,DB)
10 PX = PVTF(T,DB) $ PX = DPDRF(T,DB)
11 CP = CV + 100*T/DPDD*(DPDT/DB)**2
12 W = SQRTF(WK*CP*DPDD/CV) $ RETURN $ END

```

SUBROUTINE THERMOX

```

C   REGION X FOR DEN ABOVE DCRT, AND TSAT(18.5) = T = 220 K.
C   GIVEN P,T, GET DEN AND THERMOFUNCTIONS.
C   E = EA, S = SA AT 220 K AND 18.5 MOL/L.
C   FIRST INTEGRATE ALONG ISOCHORE 18.5, THEN ALONG ISOTHERM T.
COMMON/3/DPDT,D2PDT2,DPSJT,DPMDT,DPDD,DPDR,DTSDR,DTHDR
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
DATA (TTRP=90.08),(TCRT=190.555),(DCRT=10.0),(DTRP=28.147)
DATA (DA=18.5),(EA=9374.3),(SA=113.912)
1  E=EA $ S=SA $ TR=220-T $ N=5+TR/2 $ DT=-TR/N
2  DO 4 J=1,N $ TJ = 220 + (J-0.5)*DT $ CX = CVGF(TJ)
3  E = E + CX*DT $ S = S + CX*DT/TJ
4  CONTINUE $ DEN = DB = FINDENF(T,P)
C   NOW INTEGRATE ALONG ISOTHERM T.
5  N = 5 + 3*ABSF(DB-DA) $ S = S + SSUMF(0,N,T,DA,DB)
6  E = E + ESUMF(N,T,DA,DB) $ H = E + 100*P/DB
7  X = 0.02*(T-TCRT)**2 + 3*(DB/DCRT-1)**2 $ IF(X.LT.3.0) 8,9
8  N = N + 30*EXPF(-X)
9  CV = CVGF(T) + CSUMF(N,T,DA,DB)
10 PX = PVTF(T,DB) $ PX = DPDRF(T,DB)
11 CP = CV + 100*T/DPDD*(DPDT/DB)**2
12 W = SQRTF(WK*CP*DPDD/CV) $ RETURN $ END

```

05/14/73

```

      SUBROUTINE THERMXL
      GIVEN P, GET T,DEN, ETC., FOR SAT.LIQ. IN REGION X.
C     INTEGRATE ALONG ISOCHORE 18.5, THEN ALONG ISOTHERM T DOWN TO DL.
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,ITRP
      COMMON/3/DPDT,D2PDT2,DPSDT,DPMUT,DPDD,DPDR,DTSDR,DTHDR
      COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
      COMMON/9/ CSAT
      DATA (DA=18.5),(EA=9374.3),(SA=113.912)
      1 T = FINDTSF(P) $ E = EA $ S = SA $ TR = 220-T
      2 N = 5 + TR/2 $ DT = -TR/N
      3 DO 5 J=1,N $ TJ = 220 + (J-0.5)*DT $ CX = CVGF(TJ)
      4 E = E + CX*DT $ S = S + CX*DT/TJ
      5 CONTINUE $ DEN = DL = FINDSATF(T,1)
C     NOW INTEGRATE ALONG ISOTHERM T FROM DA DOWN TO DL.
      6 N = 5+3*ABSF(DL-DA) $ E = E+CSUMF(N,T,DA,DL) $ H = H+100*P/DL
      7 S = S + SSUMF(N,T,DA,DL) $ IF(T.EQ.TCRT) 8,9
      8 CSAT = CV = CP = W = 0 $ RETURN
      9 X = 0.02*(T-TCRT)**2 $ IF(X.LT.3.0) 10,11
      10 N = N + 30*EXP(-X)
      11 CV = CVGF(T) + CSUMF(N,T,DA,DL)
      12 PX = PVTF(T,DL) $ PX = DPDRF(T,DL) $ DDLOT = DTRP/DTSDR
      13 CSAT = CV - 100*T*DPDT*DDLOT/DL**2
      14 CP = CV + 100*T/DPDD*(DPDT/DL)**2
      15 W = SQRTF(WK*CP*DPDD/CV) $ RETURN $ END

```

05/14/73

```

      FUNCTION CSUMF(N,T,DA,DB)
C     DELTA CV = -T*INTEGRAL((D2P/DT2)/D**2)*DD.
      COMMON/3/DPDT,D2PDT2,DPSDT,DPMUT,DPDD,DPDR,DTSDR,DTHDR
      2 DX = (DB-DA)/N $ CSUMF = 0 $ DO 5 J=1,N
      3 DN = DA + (J-0.5)*DX $ P = PVTF(T,DN)
      5 CSUMF = CSUMF - D2PDT2*DX/DN**2
      9 CSUMF = 100*T*CSUMF $ RETURN $ END

```

05/14/73

```

      FUNCTION ESUMF(N,T,DA,DB)
C     GET DELTA E OVER DENSITY RANGE FROM DA TO DB.
C     DELTA E = INTEGRAL(P-T*(DP/DT))*DX/DN**2.
      COMMON/3/DPDT,D2PDT2,DPSDT,DPMUT,DPDD,DPDR,DTSDR,DTHDR
      2 DX = (DB-DA)/N $ ESUMF = 0.0
      3 DO 5 J=1,N $ DN = DA + (J-0.5)*DX $ P = PVTF(T,DN)
      5 ESUMF = ESUMF + (P-T*DPDT)*DX/DN**2
      9 ESUMF = 100*ESUMF $ RETURN $ END

```

```

      FUNCTION SSUMF(L,N,T,DA,DB)
C     DENSITY-DEPENDENT CHANGE OF S FROM DA TO DB.
C     DELTA S = INTEGRAL(GK-(DP/DT)/DN)*DX/DN.
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,ITRP
      COMMON/3/DPDT,D2PDT2,DPSDT,DPMUT,DPDD,DPDR,DTSDR,DTHDR
      1 SSUMF = 0 $ DX = (DB-DA)/N $ IF(L.EQ.0) 4,2
      2 GC=GK/DTRP $ DO 3 J=1,N $ DN=DA+(J-0.5)*DX $ P=PVTFF(T,DN)
      3 SSUMF = SSUMF + (GC-DPDT/DN)*DX/DN $ GO TO 9
      4 DO 5 J=1,N $ DN = DA + (J-0.5)*DX $ P = PVTF(T,DN)
      5 SSUMF = SSUMF - DPDT*DX/DN**2
      9 SSUMF = 100*SSUMF $ RETURN $ END

```

```

      PROGRAM METHERM6
C     COMPUTE METHANE THERMOFUNCTIONS IN ENGINEERING UNITS.
C     NOTE. DCRT=10.01532 LB/CUFT, TCRT=342.999 R, PCRT=667.003 PSI.
C     NOTE. DTRP=28.19012 LB/CUFT, TTRP=163.224 R, PTRP=1.70326 PSI.
      COMMON B1,B2, C1,C2,C3,C4, E1,E2,E3
      COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
      COMMON/3/DPDT,D2PDT2,DPSDT,OPMDT,DPDD,DPDR,DTSDR,DTHDR
      COMMON/7/ TR,TF, CN,VS
      COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
      COMMON/9/ CSAT
      COMMON/99/II,EZZ, EZ,SZ,CVZ,HZ,CPZ
      DIMENSION PSI(99)
14  FORMAT(1X)
15  FORMAT(8F10.0)
16  FORMAT(1H1 13X *METHANE ISOBAR AT P =* F8.1, * PSI* //
      1 14X1HT 8X1HT 6X3H0EN 6X3HVOL 4X5HDP/DT 6X5HDP/DO
      2 7X1HE 7X1HH 8X1HS 7X2HCV 7X2HCP 5X1HW /
      3 10X5HDEG F 4X5HDEG R 2X7HLB/CUFT 2X7HCUFT/LB 4X5HPSI/R
      4 1X10HPSICUFT/LB 2X6HBTU/LB 2X6HBTU/LB 1X8HBTU/LB/R
      5 1X8HBTU/LB/R 1X8HBTU/LB/R 2X4HFT/S )
17  FORMAT(6X 2F9.3, F9.3, F9.5, F9.3, F11.2, 2F8.2, F9.5, 2F9.3,F6.0)
18  FORMAT(6X 2F9.3, F9.4, F9.4, F9.4, F11.2, 2F8.2, F9.5, 2F9.3,F6.0)
19  FORMAT(6X 2F9.3, F9.5, F9.3, F9.5, F11.2, 2F8.2, F9.5, 2F9.3,F6.0)
C     CONSTANTS OF EQNSTATE-8, 5/11/73, AT 10.46, NF = 9.
C     NOTE CONSTANT, DE, IN PSI, XEF(T,D).
20  TTRP=90.68 $ PTRP=0.117435675 $ DTRP=28.147 $ QP=1.01325
21  TCRT=190.555 $ DCRT=10.0 $ PCRT=PSATF(TCRT)
22  AG=AL=0.2 $ BE=7 $ DE=1 $ GKK=0.0831434 $ GK=DTRP*GKK
23  B1 = 1.599101971 $ B2 = 2.483786733 $ C1 = -1.076088156
24  C2 = 10.482192754 $ C3 = -22.556715826 $ C4 = 12.289665719
25  E1 = 0.993750233 $ E2 = -1.243035021 $ E3 = 0.318523715
27  EZZ = 4.1868*2191.3 $ WK = 100000/16.043
28  QPP = 14.69595/QP $ TA = 174.516 $ TB = 220
C     DERIVE THE J-T INVERSION CURVE.
99  CALL JTLOCUS
C     TABULATE THE SATURATED LIQUID FUNCTIONS.
100 CALL TABLIQ
C
C     COMPUTE THERMOFUNCTIONS ON ISOBARS -
C     EVERY ISOBAR STARTS ON THE MELTING LINE AT T UNDER TCRT.
C     LET THE FIRST ISOBAR BE AT P = PTRP.
C     ISOBARS AT P UNDER PCRT TRAVERSE THE DOME.
C     SPECIAL CASES FOR REGION X AT TA=TB, DEN ABOVE DCRT.
140 NI = 65 $ PSI(1) = PTRP*QPP
141 READ 15, (PSI(I),I=2,NI)
142 DO 300 I=1,NI $ PRINT 16, PSI(I) $ P = PSI(I)/QPP
143 CALL MELTHERM $ CALL CONVERT $ V = 1/DEN
145 PRINT 17, TF,TR,DEN,V, DPDT,DPDD, E,H,S, CV,CP,W
146 IT = TF/10 - 1 $ IF(P.LT.PCRT) 154,200
C
C     CASES FOR P LESS THAN PCRT.
154 K=L=0 $ TS=FINDTSF(P) $ TX = TS + 10/1.8
155 DO 199 J=1,99 $ JT=10*(IT+J) $ T=TT=273.15+(JT-32)/1.8
157 IF(T.LT.TA) 158,175
C     NORMAL CASES FOR P UNDER PCRT, T UNDER TA.

```

```

158 IF(T.LT.TS) 159,161
C   CASE FOR COMPRESSED LIQUID AT T UNDER TA.
159 CALL THRMOLIQ $ CALL CONVERT $ V = 1/DEN
160 PRINT 17, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ GO TO 199
161 IF(T.LT.TX) 162,183
C   CASE FOR SATURATED LIQUID AND VAPOR.
162 IF(I.EQ.1) 163,164
163 PRINT 14 $ GO TO 156
164 CALL SATLQTRM $ CALL CONVERT $ V = 1/DEN
165 PRINT 17, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ PRINT 14
166 CALL SATGSTRM $ CALL CONVERT $ V = 1/DEN
167 IF(P.GT.10.0) 168,169
168 PRINT 18, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ GO TO 170
169 PRINT 19, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W
170 T = TT $ GO TO 183
C   CASES FOR P UNDER PCRT, T OVER TA, IN REGION X.
175 IF(T.LT.TS) 176,178
C   CASE FOR COMPR. LIQ. AT TA = T = TSAT IN REGION X.
176 CALL THERMOX $ CALL CONVERT $ V = 1/DEN
177 PRINT 17, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ GO TO 199
178 IF(T.LT.TX) 179,183
C   CASE FOR SAT. LIQ. IN REGION X, AND SAT. VAPOR.
179 CALL THERMXL $ CALL CONVERT $ V = 1/DEN
180 PRINT 17, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ PRINT 14
181 CALL SATGSTRM $ CALL CONVERT $ V = 1/DEN
182 PRINT 18, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ T = TT
C   CASES FOR HOMOGENEOUS DOMAIN, D UNDER DG, OR T OVER TC.
183 IF(JT.GT.80) 184,188
184 K = K+1 $ JT = JT+10*K $ T = 273.15 + (JT-32)/1.8
185 IF(JT.GT.240) 186,188
186 L = L+1 $ JT = JT+20*L $ T = 273.15 + (JT-32)/1.8
187 IF(JT.GT.440) 300,198
188 CALL THRMOGAS $ CALL CONVERT $ V = 1/DEN
189 IF(P.GT.10.0) 190,191
190 PRINT 18, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ GO TO 199
191 PRINT 19, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W
199 CONTINUE
C
C   CASES FOR P GREATER THAN PCRT.
200 K=L=0 $ DO 230 J=1,99 $ JT=10*(IT+J) $ T=273.15+(JT-32)/1.8
201 IF(T.LT.TB) 202,220
202 IF(T.LT.TA) 203,205
203 CALL THRMOLIQ $ CALL CONVERT $ V = 1/DEN
204 PRINT 17, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ GO TO 230
205 IF(T.LT.TCRT) 211,206
206 PX = PVTf(T,DCRT) $ IF(P.GT.PX) 211,225
C   CASE FOR REGION X AT TA = T = TB, P ABOVE CRITICAL ISOCHORE.
211 CALL THERMOX $ CALL CONVERT $ V = 1/DEN
212 PRINT 17, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W $ GO TO 230
C   CASES FOR HOMOGENEOUS DOMAIN, D UNDER DG, OR T OVER TC.
220 IF(JT.GT.80) 221,225
221 K = K+1 $ JT = JT+10*K $ T = 273.15 + (JT-32)/1.8
222 IF(JT.GT.240) 223,225
223 L = L+1 $ JT = JT+20*L $ T = 273.15 + (JT-32)/1.8
224 IF(JT.GT.440) 300,225
225 CALL THRMOGAS $ CALL CONVERT $ V = 1/DEN
226 PRINT 17, TF,TR,DEN,V, DPOT,DPDD, E,H,S, CV,CP,W
230 CONTINUE
300 CONTINUE
999 STOP $ END

```



```

SUBROUTINE JTLOCUS
C  DERIVE THE J-T INVERSION CURVE.  USE ROUTINE DELTAF(T,DI).
    DIMENSION TT(99),TF(99),PP(99),DN(99)
    DATA (DCRT=10.0),(TCRT=190.555)
1  FORMAT(1H1 16X *THE JOULE-THOMSON INVERSION LOCUS FOR METHANE*//
2  12X 3HT,F 5X3HT,R 2X5HP,PSI 2X7HLB/CUFT
3  9X 3HT,F 5X3HT,R 2X5HP,PSI 2X7HLB/CUFT )
4  FORMAT(3X 2(F12.2, F8.2, F7.0, F9.2))
5  PRINT 1 $ DO 25 I=1,62 $ TF(I) = -180 + 10*I
6  TT(I) = 459.67 + TF(I) $ T = TT(I)/1.8 $ DX = 1.6
7  DI = DCRT*(2.70816 - 0.70263*T/TCRT) $ IF(T-TCRT) 11,12,12
8  DL = DENLIQF(T) $ IF(DI-DL) 25,12,12
9  SS = DELTAF(T,DI)
10 DO 20 IT=1,15
11 D=DI-DX $ SL=DELTAF(T,D) $ D=DI+DX $ SP=DELTAF(T,D)
12 IF(SS-SL) 18,16,16
13 IF(SP-SL) 19,17,17
14 SS = SL $ DI = DI - DX $ GO TO 20
15 IF(SS-SP) 20,20,19
16 SS = SP $ DI = DI + DX
17 DX = DX/2 $ D = DI $ P = PVTf(T,D)
18 IF(T-TCRT) 22,23,23
19 PS = PSATf(T) $ IF(P-PS) 25,23,23
20 PP(I) = 14.503774*P $ DN(I) = 1.001532*P
21 CONTINUE
22 DO 29 J=1,31
23 PRINT 2, TF(J),TT(J),PP(J),DN(J),
24 1 TF(J+31),TT(J+31),PP(J+31),DN(J+31)
25 RETURN $ END

```

05/16/73

```

FUNCTION DELTAF(T,D)
C  GET (T*DP/DT - D*DP/DD) FOR THE J-T INVERSION CURVE.
    COMMON/3/DPDT,D2PDT2,DPSOT,DPMOT,DPDD,DPDR,OTSDR,OTHDR
    DATA (DCRT=10.0),(TCRT=190.555)
1  IF(T-TCRT) 2,4,4
2  DL = DENLIQF(T) $ IF(D-DL) 3,4,4
3  DELTAF = 1.0E+010 $ RETURN
4  P = PVTf(T,D) $ PX = DPDRf(T,D)
5  DELTAF = ABSF(T*DPDT-D*DPDD) $ RETURN $ END

```

```

SUBROUTINE CONSAT
C  CONVERT SAT.LIQ. PROPERTIES TO BRITISH UNITS.
    COMMON/3/DPDT,D2PDT2,DPSOT,DPMOT,DPDD,DPDR,OTSDR,OTHDR
    COMMON/6/TT,PS,DL,DDLOT,VG,VL,Q
    COMMON/7/ TR,TF, CN,VS
    COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
    COMMON/9/ CSAT
    DATA(EK=37.291055),(SK=67.123912),(DK=1.001532)
1  TR = 1.8*TT $ TF = 32 + 1.8*(TT-273.15)
2  PS = 14.503775*PS $ DPSOT = 8.0576524*DPSOT
3  DL = DK*DL $ DDLOT = 0.55640657*DDLOT
4  VG = VG/DK $ VL = VL/DK $ Q=Q/EK $ E=E/EK $ H=H/EK
5  S=S/SK $ CSAT=CSAT/SK $ CV=CV/SK $ CP=CP/SK
6  W = 3.28084*W $ CN = 0.0578176*CN $ VS = 0.067197*VS
7  RETURN $ END

```



```

SUBROUTINE CONVERT
C  CONVERT FROM SI TO BRITISH UNITS.
COMMON/3/DPDT,D2PDT2,DPSDT,OPMDT,OPDD,OPDR,OTSDR,OTHDR
COMMON/7/ TR,TF, CN,VS
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
DATA (EK = 37.291055),(SK = 67.123912)
1 TR = 1.8*T $ TF = 32 + 1.8*(T-273.15)
2 DEN = 1.001532*DEN $ E = E/EK $ H = H/EK
3 S = S/SK $ CV = CV/SK $ CP = CP/SK
4 W = 3.28084*W $ CN = 0.0578176*CN $ VS = 0.067197*VS
5 DPDT = 8.0576524*DPDT $ OPDD = 14.481591*OPDD
9 RETURN $ END

SUBROUTINE TABLIQ
C  TABULATE THE SATURATED LIQUID FUNCTIONS.
COMMON/1/AG,AL,BE,DE,GK, DCRT,PCRT,TCRT, DTRP,PTRP,TTRP
COMMON/3/DPDT,D2PDT2,DPSDT,OPMDT,OPDD,OPDR,OTSDR,OTHDR
COMMON/6/TT,PS,DL,DDLDT,VG,VL,Q
COMMON/7/ TR,TF, CN,VS
COMMON/8/ P,T,DEN, E,H,S, CV,CP,W, WK
COMMON/9/ CSAT
1 FORMAT(1H1 13X *PROPERTIES OF SATURATED LIQUID METHANE* / )
2 FORMAT(14X1HT 8X1HT 8X1HP 5X3HDEN 4X5HV,GAS 4X5HV,LIQ 3X5HDP/DT
1 4X6HDDL/DT 3X5HQ,VAP / 10X5HDEG F 4X5HDEG R 6X3HPSI 1X7HLB/CUFT
2 2X7HCUFT/LB 2X7HCUFT/LB 3X5HPSI/R 1X9HLB/CUFT/R 2X6HBTU/LB )
3 FORMAT(6X 3F9.3, F8.3, F9.4, F9.5, F8.4, F10.5, F8.2)
4 FORMAT(14X1HT 8X1HP 7X1HE 7X1HH 8X1HS 7X2HCV 7X2HCS 7X2HCP 6X1HW /
1 10X5HDEG F 6X3HPSI 2X6HBTU/LB 2X6HBTU/LB 1X8HBTU/LB/R
2 1X8HBTU/LB/R 1X8HBTU/LB/R 1X8HBTU/LB/R 3X4HFT/S )
5 FORMAT(6X 2F9.3, 2F8.2, F9.5, 3F9.3, F7.0)
C  FOR PAGE 1 OF TABLIQ.
9 TA = 174.516 $ PRINT 1 $ PRINT 2
10 DO 25 J=1,37 $ IF(J.EQ.1) 11,12
11 TT = TTRP $ GO TO 15
12 IF(J.EQ.37) 13,14
13 TT = TCRT $ DG=DL=DCRT $ VG=VL=1/DG $ GO TO 17
14 FT = -300 + 5*J $ TT = 273.15 + (FT-32)/1.8
15 DG = FINDSATF(TT,0) $ VG = 1/DG
16 DL = FINDSATF(TT,1) $ VL = 1/DL
17 PS = PSATF(TT) $ Q = 100*TT*DPSDT*(VG-VL)
18 IF(J.EQ.37) 19,20
19 DDLDT = 0 $ GO TO 24
20 TS = TSATF(DL) $ DDLDT = DTRP/OTSDR
24 CALL CONSAT
25 PRINT 3, TF,TR,PS, DL,VG,VL, DPSDT,DDLDT,Q
C  FOR PAGE 2 OF TABLIQ.
30 PRINT 1 $ PRINT 4 $ DO 50 J=1,37 $ IF(J.EQ.1) 31,32
31 TT=TTRP $ PS=PTRP $ DL=DTRP $ GO TO 38
32 IF(J.EQ.37) 33,35
33 TT=TCRT $ PS=PCRT $ CV=CSAT=CP=W=0
34 S=SSATF(TT) $ E=ESATF(TT) $ H = E + 100*PS/DCRT $ GO TO 49
35 FT = -300 + 5*J $ TT = 273.15 + (FT-32)/1.8
36 PS = PSATF(TT) $ DL = FINDSATF(TT,1)
37 IF(TT.GT.TA) 45,38
38 S = SSATF(TT) $ E = ESATF(TT) $ H = E + 100*PS/DL
39 PX = PVTF(TT,DL) $ DDLDT = DTRP/OTSDR
40 CV = CSAT + 100*TT*OPDD*(DDLDT/DL**2) $ PX = OPDRF(TT,DL)
41 CP = CV + 100*TT*OPDD*(OPDD/DL)**2
42 W = SQRTF(WK*CP*OPDD/CV) $ GO TO 49
45 P = PS $ CALL THER1XL
49 CALL CONSAT
50 PRINT 5, TF,PS, E,H,S, CV,CSAT,CP, W
99 RETURN $ END

```

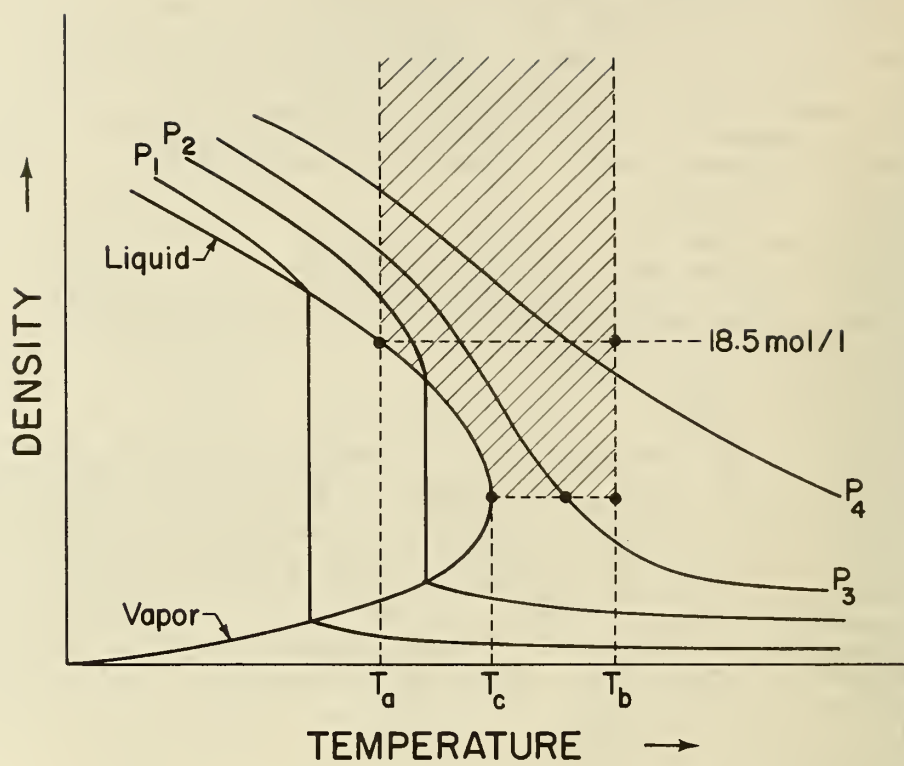


Figure 1. Density-temperature phase diagram.

Table 1-A. The saturated vapor densities

ID	T,K	MOL/L	CALCD	PCNT
2	90.680	0.0157	0.0157	-0.03
1	91.000	0.0163	0.0163	0.09
2	92.000	0.0183	0.0183	-0.02
2	94.000	0.0229	0.0229	0.01
1	95.000	0.0255	0.0255	0.15
2	96.000	0.0283	0.0283	-0.00
2	98.000	0.0347	0.0347	0.02
2	100.000	0.0422	0.0421	0.03
2	102.000	0.0508	0.0508	0.02
1	103.000	0.0557	0.0556	0.17
2	104.000	0.0608	0.0608	0.02
2	106.000	0.0722	0.0721	0.02
1	107.000	0.0736	0.0784	0.23
2	108.000	0.0851	0.0851	0.01
2	110.000	0.0937	0.0997	0.00
1	111.000	0.1081	0.1078	0.32
2	112.000	0.1152	0.1162	-0.00
2	114.000	0.1347	0.1347	-0.01
1	115.000	0.1452	0.1447	0.33
2	116.000	0.1553	0.1553	-0.01
2	118.000	0.1731	0.1782	-0.01
1	119.000	0.1912	0.1905	0.36
2	120.000	0.2035	0.2035	-0.01
2	122.000	0.2314	0.2314	-0.01
1	123.000	0.2473	0.2464	0.35
2	124.000	0.2621	0.2622	-0.01
2	126.000	0.2958	0.2959	-0.01
1	127.000	0.3151	0.3139	0.38
2	128.000	0.3327	0.3327	-0.01
2	130.000	0.3730	0.3730	-0.00
1	131.000	0.3961	0.3945	0.41
2	132.000	0.4159	0.4169	-0.00
2	134.000	0.4646	0.4646	0.00
1	135.000	0.4920	0.4899	0.42
2	136.000	0.5154	0.5164	0.00
2	138.000	0.5725	0.5725	0.01
1	139.000	0.6049	0.6023	0.43
2	140.000	0.6334	0.6333	0.01
2	142.000	0.6992	0.6991	0.00
1	143.000	0.7370	0.7340	0.41
2	144.000	0.7773	0.7703	0.00
2	146.000	0.8471	0.8471	-0.00
1	147.000	0.8911	0.8878	0.37
2	148.000	0.9301	0.9301	-0.01
2	150.000	1.0136	1.0198	-0.01
1	151.000	1.0704	1.0672	0.30
2	152.000	1.1154	1.1165	-0.02
2	154.000	1.2209	1.2211	-0.02
1	155.000	1.2730	1.2765	0.20
2	156.000	1.3338	1.3340	-0.02
2	158.000	1.4550	1.4562	-0.01
1	159.000	1.5221	1.5210	0.07
2	160.000	1.5884	1.5884	0.00
2	162.000	1.7322	1.7317	0.03
1	163.000	1.8063	1.8079	-0.09
2	164.000	1.8386	1.8874	0.07
2	166.000	2.0533	2.0567	0.13
1	167.000	2.1408	2.1471	-0.29
2	168.000	2.2455	2.2416	0.22
1615	169.067	2.3488	2.3472	0.07
1614	169.270	2.3687	2.3679	0.03
912	169.417	2.3858	2.3830	0.12

Table 1-A. The saturated vapor densities (continued)

ID	T,K	MOL/L	CALCD	PCNT
1612	169.468	2.3881	2.3883	-0.01
910	169.561	2.4054	2.4021	0.14
908	169.794	2.4236	2.4223	0.06
1	171.000	2.5388	2.5526	-0.54
1716	173.088	2.7972	2.7974	-0.01
1714	173.290	2.8233	2.8225	-0.08
1712	173.489	2.8457	2.8475	-0.06
1712	173.473	2.8480	2.8455	0.09
1710	173.675	2.8730	2.8711	-0.04
1708	173.857	2.8935	2.8944	-0.03
1	175.000	3.0139	3.0462	-0.87
1815	177.094	3.3501	3.3514	-0.04
1814	177.292	3.3831	3.3823	-0.06
1114	177.328	3.3853	3.3879	-0.05
1812	177.485	3.4108	3.4128	-0.06
1112	177.509	3.4239	3.4166	0.13
1110	177.700	3.4632	3.4472	0.38
1915	181.105	4.0053	4.0659	0.01
1914	181.304	4.1077	4.1072	0.01
1213	181.389	4.1269	4.1250	0.05
1912	181.506	4.1436	4.1498	-0.01
1211	181.589	4.1636	4.1675	-0.05
1209	181.768	4.2042	4.2062	-0.05
1516	183.117	4.5212	4.5188	0.05
1514	183.322	4.5714	4.5700	0.01
1512	183.514	4.6139	4.6189	0.00
1316	184.125	4.7822	4.7814	0.02
2108	184.087	4.7825	4.7710	0.24
2107	184.285	4.8253	4.8258	0.01
1314	184.370	4.8462	4.8498	-0.07
2105	184.471	4.8797	4.8786	0.02
1312	184.510	4.8876	4.8898	-0.04
6	185.030	5.0380	5.0445	-0.13
6	186.030	5.3840	5.3748	0.17
2208	186.103	5.4077	5.4007	0.13
1416	186.129	5.4036	5.4101	-0.01
1414	186.319	5.4795	5.4798	-0.01
2207	186.304	5.4827	5.4742	0.15
2206	186.501	5.5571	5.5487	0.15
1412	186.518	5.5531	5.5552	0.07
6	187.031	5.7850	5.7628	0.40
6	188.031	6.2750	6.2394	0.57
2308	188.140	6.2930	6.2988	-0.09
2307	188.343	6.4167	6.4150	-0.13
2306	188.545	6.5278	6.5382	-0.16
6	189.032	6.9180	6.8756	0.61
5	189.765	7.5510	7.5664	-0.20
5	189.785	7.5510	7.5906	-0.52
5	190.046	7.9350	7.9525	-0.22
5	190.066	7.9350	7.9850	-0.63
6	190.032	7.9630	7.9303	0.37
7	190.070	8.0000	7.9916	0.11
7	190.170	8.1700	8.1692	0.01
7	190.270	8.3600	8.3799	-0.24
5	190.279	8.3920	8.4011	-0.11
5	190.299	8.3920	8.4497	-0.69
7	190.370	8.6200	8.6449	-0.29
7	190.470	9.0000	9.0248	-0.28
5	190.480	9.1610	9.0758	0.93
5	190.500	9.1610	9.1917	-0.34
5	190.524	9.6850	9.3708	3.25

NP = 123, RMSPCT = 0.376

Table 1-B. The saturated liquid densities

ID	T,K	MOL/L	CALCD	PCNT
5	190.530	10.059	10.790	-7.27
5	190.515	10.796	10.936	-1.30
5	190.442	11.357	11.362	0.04
5	190.462	11.357	11.270	0.86
7	190.470	11.410	11.229	1.59
7	190.370	11.790	11.628	1.37
5	190.316	11.824	11.786	0.32
5	190.336	11.824	11.730	0.79
7	190.270	12.070	11.904	1.38
7	190.170	12.270	12.123	1.20
5	190.048	12.397	12.346	0.41
5	190.068	12.397	12.312	0.68
7	190.070	12.440	12.309	1.05
6	190.032	12.474	12.373	0.81
5	189.707	12.879	12.830	0.38
5	189.311	13.300	13.255	0.34
5	189.331	13.300	13.236	0.48
5	189.032	13.578	13.506	0.53
114	188.000	14.284	14.242	0.29
5	188.031	14.285	14.223	0.44
5	187.469	14.582	14.549	0.22
5	187.489	14.582	14.538	0.30
5	187.031	14.836	14.779	0.38
113	186.000	15.286	15.260	0.18
5	186.030	15.302	15.246	0.36
5	185.030	15.710	15.655	0.35
112	184.000	16.054	16.031	0.14
504	184.000	16.050	16.031	0.18
111	180.000	17.249	17.230	0.11
503	180.000	17.254	17.230	0.14
1	175.053	18.390	18.389	0.00
110	175.000	18.417	18.400	0.09
502	175.000	18.420	18.400	0.11
109	170.000	19.337	19.372	0.38
1	169.326	19.432	19.492	-0.00
108	165.000	20.234	20.219	0.07
1	163.659	20.428	20.431	-0.01
107	160.000	20.931	20.981	0.05
1	157.199	21.379	21.378	0.00
106	155.000	21.636	21.678	0.04
1	151.553	22.130	22.129	0.00
105	150.000	22.329	22.325	0.02
501	150.000	22.332	22.325	0.03
1	145.448	22.980	22.880	0.00
104	145.000	22.932	22.933	-0.00
103	140.000	23.500	23.508	-0.03
1	139.352	23.578	23.580	-0.01
102	135.000	24.041	24.055	-0.05
1	133.878	24.176	24.174	0.01
1	133.773	24.186	24.185	0.00
101	130.000	24.558	24.578	-0.08
1	129.657	24.611	24.613	-0.01
1	125.825	24.999	24.999	-0.00
1	121.893	25.388	25.384	0.01
1	117.746	25.782	25.779	0.01
1	113.772	26.146	26.149	-0.01
1	109.511	26.527	26.526	0.00
1	105.165	26.916	26.920	-0.02
1	101.434	27.243	27.244	-0.00
1	97.173	27.605	27.607	-0.01
1	93.512	27.910	27.913	-0.01

NP = 61, RMSPCT = 1.055

Table 1-C. The vapor-liquid saturation temperatures

ID	T, K	CALC	PCNT	MOL/L	CALC	PCNT	DTS/DD
2	90.680	90.681	-0.00	0.0157	0.0157	0.01	539.6170
1	91.000	91.011	-0.01	0.0163	0.0163	0.12	523.2873
2	92.000	92.003	0.00	0.0183	0.0183	-0.00	477.9297
2	94.000	94.000	-0.00	0.0229	0.0229	0.00	400.7747
1	95.000	95.013	-0.01	0.0255	0.0255	0.14	367.8597
2	96.000	95.993	0.00	0.0283	0.0283	-0.02	339.1716
2	98.000	98.000	0.00	0.0347	0.0347	-0.00	289.3527
2	100.000	100.001	-0.00	0.0422	0.0422	0.01	248.7637
2	102.000	102.000	-0.00	0.0508	0.0508	0.00	215.4135
1	103.000	103.017	-0.02	0.0557	0.0556	0.15	200.7235
2	104.000	104.001	-0.00	0.0608	0.0608	0.01	187.7496
2	106.000	106.001	-0.00	0.0722	0.0722	0.01	164.6375
1	107.000	107.027	-0.03	0.0786	0.0784	0.22	154.2492
2	108.000	108.001	-0.00	0.0851	0.0851	0.01	145.1854
2	110.000	110.000	0.00	0.0997	0.0998	-0.00	128.7044
1	111.000	111.042	-0.04	0.1081	0.1078	0.32	121.1022
2	112.000	112.003	0.00	0.1162	0.1162	-0.00	114.6394
2	114.000	113.999	0.00	0.1347	0.1347	-0.01	102.5721
1	115.000	115.047	-0.04	0.1452	0.1447	0.34	96.9191
2	116.000	115.999	0.00	0.1553	0.1553	-0.01	92.1464
2	118.000	117.999	0.00	0.1781	0.1782	-0.01	83.0959
1	119.000	119.055	-0.05	0.1912	0.1905	0.37	78.7909
2	120.000	119.999	0.00	0.2035	0.2035	-0.01	75.1942
2	122.000	121.998	0.00	0.2314	0.2314	-0.01	68.2622
1	123.000	123.058	-0.05	0.2473	0.2464	0.36	64.9313
2	124.000	123.999	0.00	0.2621	0.2621	-0.01	62.1479
2	126.000	125.999	0.00	0.2958	0.2958	-0.00	56.7308
1	127.000	127.067	-0.05	0.3151	0.3139	0.39	54.0902
2	128.000	128.000	-0.00	0.3327	0.3327	0.00	51.9089
2	130.000	130.001	-0.00	0.3730	0.3730	0.01	47.5991
1	131.000	131.076	-0.06	0.3961	0.3944	0.42	45.4697
2	132.000	132.002	-0.00	0.4169	0.4168	0.01	43.7308
2	134.000	134.002	-0.00	0.4646	0.4645	0.01	40.2444
1	135.000	135.082	-0.06	0.4920	0.4899	0.43	38.5038
2	136.000	136.003	-0.00	0.5164	0.5163	0.02	37.0898
2	138.000	138.004	-0.00	0.5725	0.5724	0.02	34.2259
1	139.000	139.087	-0.06	0.6049	0.6022	0.44	32.7830
2	140.000	140.004	-0.00	0.6334	0.6333	0.02	31.6170
2	142.000	142.003	-0.00	0.6992	0.6991	0.02	29.2325
1	143.000	143.086	-0.06	0.7370	0.7339	0.42	28.0250
2	144.000	144.002	-0.00	0.7703	0.7702	0.01	27.0461
2	146.000	146.001	-0.00	0.8471	0.8471	0.00	25.0355
1	147.000	147.080	-0.05	0.8911	0.8878	0.37	24.0165
2	148.000	147.999	0.00	0.9301	0.9301	-0.00	23.1816
2	150.000	149.997	0.00	1.0196	1.0198	-0.02	21.4675
1	151.000	151.064	-0.04	1.0704	1.0673	0.29	20.6035
2	152.000	151.994	0.00	1.1164	1.1166	-0.03	19.8781
2	154.000	153.992	0.01	1.2209	1.2213	-0.03	18.4009
1	155.000	155.041	-0.03	1.2790	1.2767	0.18	17.6668
2	156.000	155.991	0.01	1.3338	1.3343	-0.04	17.0241
2	158.000	157.991	0.01	1.4560	1.4566	-0.04	15.7372
1	159.000	159.011	-0.01	1.5221	1.5214	0.04	15.1133
2	160.000	159.993	0.00	1.5884	1.5889	-0.03	14.5308
2	162.000	161.998	0.00	1.7322	1.7323	-0.01	13.3960
1	163.000	162.971	0.02	1.8063	1.8085	-0.12	12.8693
2	164.000	164.003	-0.00	1.8886	1.8880	0.03	12.3245
2	166.000	166.024	-0.01	2.0593	2.0573	0.10	11.3085
1	167.000	166.927	0.04	2.1408	2.1476	-0.32	10.8703
2	168.000	168.047	-0.03	2.2465	2.2419	0.20	10.3399
1616	169.067	169.080	-0.01	2.3488	2.3475	0.06	9.8630
1614	169.270	169.276	-0.00	2.3687	2.3681	0.02	9.7740
912	169.417	169.442	-0.01	2.3858	2.3832	0.11	9.6985

Table 1-C. The vapor-liquid saturation temperatures (continued)

ID	T,K	CALC	PCNT	MOL/L	CALC	PCNT	DTS/DO
1612	169.468	169.464	0.00	2.3881	2.3885	-0.02	9.6884
910	169.601	169.631	-0.02	2.4054	2.4022	0.13	9.6130
908	169.794	169.806	-0.01	2.4236	2.4224	0.05	9.5345
1	171.000	170.875	0.07	2.5388	2.5525	-0.54	9.0586
1716	173.088	173.091	-0.00	2.7972	2.7969	0.01	8.1034
1714	173.290	173.277	0.01	2.8203	2.8219	-0.06	8.0246
1712	173.489	173.483	0.01	2.8457	2.8469	-0.04	7.9391
1012	173.473	173.498	-0.01	2.8480	2.8449	0.11	7.9314
1610	173.675	173.672	0.00	2.8700	2.8704	-0.02	7.8584
1008	173.857	173.855	0.00	2.8935	2.8937	-0.01	7.7813
1	175.000	174.813	0.11	3.0199	3.0453	-0.84	7.3825
1816	177.094	177.193	0.00	3.3501	3.3502	-0.00	6.4505
1814	177.292	177.285	0.00	3.3801	3.3811	-0.03	6.3728
1114	177.328	177.325	0.00	3.3863	3.3868	-0.01	6.3568
1812	177.485	177.483	0.00	3.4108	3.4116	-0.02	6.2942
1112	177.509	177.543	-0.02	3.4209	3.4154	0.16	6.2686
1110	177.700	177.788	-0.05	3.4602	3.4460	0.41	6.1701
1916	181.105	181.108	-0.00	4.0663	4.0657	0.02	4.8413
1914	181.304	181.307	-0.00	4.1077	4.1071	0.01	4.7619
1213	181.389	181.398	-0.00	4.1269	4.1250	0.05	4.7256
1912	181.506	181.505	0.00	4.1496	4.1499	-0.01	4.6829
1211	181.589	181.573	0.01	4.1656	4.1677	-0.05	4.6531
1209	181.768	181.759	0.01	4.2042	4.2065	-0.05	4.5819
1516	183.117	183.122	-0.00	4.5212	4.5200	0.03	4.0358
1514	183.322	183.318	0.00	4.5704	4.5713	-0.02	3.9569
1512	183.514	183.508	0.00	4.6189	4.6204	-0.03	3.8805
1316	184.125	184.122	0.00	4.7822	4.7831	-0.02	3.6335
2108	184.087	184.123	-0.02	4.7825	4.7727	0.21	3.6331
2107	184.285	184.283	0.00	4.8263	4.8276	-0.03	3.5694
1314	184.370	184.351	0.01	4.8462	4.8515	-0.11	3.5408
2106	184.471	184.469	0.00	4.8797	4.8803	-0.01	3.4931
1312	184.510	184.497	0.01	4.8876	4.8915	-0.08	3.4820
6	185.030	185.005	0.01	5.0380	5.0458	-0.15	3.2759
6	186.030	186.062	-0.02	5.3840	5.3731	0.20	2.8434
2208	186.103	186.129	-0.01	5.4077	5.3986	0.17	2.8158
1416	186.129	186.134	-0.00	5.4096	5.4078	0.03	2.8136
1414	186.319	186.323	-0.00	5.4795	5.4762	0.06	2.7334
2207	186.304	186.337	-0.02	5.4827	5.4767	0.22	2.7298
2206	186.501	186.537	-0.02	5.5571	5.5436	0.24	2.5467
1412	186.518	186.542	-0.01	5.5591	5.5500	0.16	2.6445
6	187.031	187.114	-0.04	5.7860	5.7515	0.60	2.4042
6	188.031	188.174	-0.08	6.2750	6.2026	1.15	1.9420
2308	188.140	188.209	-0.04	6.2930	6.2574	0.57	1.9262
2307	188.343	188.423	-0.04	6.4067	6.3636	0.67	1.8278
2306	188.545	188.633	-0.05	6.5278	6.4748	0.81	1.7257
6	189.032	189.249	-0.11	6.9180	6.7702	2.14	1.4101
5	189.765	189.984	-0.12	7.5510	7.3317	2.90	0.9129
5	189.785	189.984	-0.10	7.5510	7.3502	2.66	0.9129
5	190.046	190.277	-0.12	7.9350	7.6209	3.96	0.6103
5	190.066	190.277	-0.11	7.9350	7.6444	3.66	0.6103
6	190.032	190.292	-0.14	7.9600	7.6047	4.46	0.5909
7	190.070	190.315	-0.13	8.0000	7.6492	4.38	0.5599
7	190.170	190.399	-0.12	8.1700	7.7766	4.82	0.4313
7	190.270	190.468	-0.10	8.3600	7.9244	5.21	0.2978
5	190.279	190.477	-0.10	8.3920	7.9391	5.40	0.2769
5	190.299	190.477	-0.09	8.3920	7.9728	5.00	0.2769
7	190.370	190.524	-0.08	8.6200	8.1066	5.96	0.1461
7	190.470	190.553	-0.04	9.0000	8.3676	7.03	0.0226
5	190.480	190.555	-0.04	9.1610	8.4032	8.27	0.0056
5	190.500	190.555	-0.03	9.1610	8.4851	7.38	0.0056
5	190.524	190.555	-0.02	9.6860	8.6164	11.04	0.0000
5	190.530	190.555	-0.01	10.0590	11.4638	-13.97	-0.0000
5	190.515	190.555	-0.02	10.7960	11.5780	-7.24	-0.0018

Table 1-C. The vapor-liquid saturation temperatures (continued)

IO	T,K	CALC	PCNT	MOL/L	CALC	PCNT	DTS/DD
5	190.442	190.539	-0.05	11.3670	11.9013	-4.70	-0.0800
5	190.462	190.539	-0.04	11.3670	11.8315	-4.09	-0.0800
7	190.470	190.535	-0.03	11.4100	11.8009	-3.43	-0.0930
7	190.370	190.473	-0.05	11.7900	12.1022	-2.65	-0.2480
5	190.316	190.464	-0.08	11.8240	12.2228	-3.37	-0.2648
5	190.336	190.464	-0.07	11.8240	12.1801	-3.01	-0.2648
7	190.270	190.383	-0.06	12.0700	12.3127	-2.01	-0.3960
7	190.170	190.292	-0.06	12.2700	12.4827	-1.73	-0.5116
5	190.048	190.223	-0.09	12.3970	12.6587	-2.11	-0.5876
5	190.068	190.223	-0.08	12.3970	12.6316	-1.89	-0.5876
7	190.070	190.197	-0.07	12.4400	12.6289	-1.52	-0.6136
0	190.032	190.175	-0.08	12.4740	12.6799	-1.65	-0.6342
5	189.707	189.868	-0.09	12.8790	13.0514	-1.34	-0.8835
5	189.311	189.442	-0.07	13.3000	13.4109	-0.83	-1.1436
5	189.331	189.442	-0.06	13.3000	13.3943	-0.71	-1.1436
0	189.032	189.111	-0.04	13.5780	13.6292	-0.38	-1.3149
114	188.000	188.018	-0.01	14.2837	14.2942	-0.07	-1.7510
0	188.031	188.016	0.01	14.2850	14.2763	0.06	-1.7518
5	187.469	187.468	0.00	14.5820	14.5816	0.00	-1.9381
5	187.489	187.463	0.01	14.5820	14.5713	0.07	-1.9381
0	187.031	186.955	0.04	14.8360	14.7999	0.24	-2.0998
113	186.000	185.944	0.03	15.2864	15.2629	0.15	-2.3934
0	186.030	185.905	0.07	15.3020	15.2500	0.34	-2.4038
0	185.030	184.871	0.09	15.7100	15.6498	0.38	-2.6790
112	184.000	183.903	0.05	16.0539	16.0221	0.20	-2.9185
604	184.000	183.891	0.06	16.0599	16.0221	0.24	-2.9227
111	180.000	179.893	0.06	17.2491	17.2222	0.16	-3.8051
603	180.000	179.873	0.07	17.2540	17.2222	0.18	-3.8089
1	175.053	175.141	0.01	18.3900	18.3872	0.02	-4.7202
110	175.000	174.914	0.05	18.4167	18.3985	0.10	-4.7422
602	175.000	174.895	0.06	18.4204	18.3985	0.12	-4.7452
109	170.000	169.921	0.05	19.3869	19.3726	0.07	-5.5531
1	169.326	169.333	-0.00	19.4920	19.4932	-0.01	-5.6417
108	165.000	164.917	0.05	20.2335	20.2203	0.07	-6.2671
1	163.659	163.682	-0.01	20.4280	20.4316	-0.02	-6.4305
107	160.000	159.932	0.04	20.9906	20.9808	0.05	-6.9001
1	157.199	157.191	0.01	21.3790	21.3777	0.01	-7.2206
106	155.000	154.936	0.04	21.6858	21.6772	0.04	-7.4714
1	151.553	151.537	0.01	22.1300	22.1280	0.01	-7.8305
105	150.000	149.962	0.03	22.3292	22.3244	0.02	-7.9901
601	150.000	149.942	0.04	22.3316	22.3244	0.03	-7.9920
1	145.448	145.441	0.01	22.8800	22.8791	0.00	-8.4268
104	145.000	145.001	-0.00	22.9320	22.9321	-0.00	-8.4677
103	140.000	140.063	-0.05	23.4999	23.5073	-0.03	-8.9116
1	139.352	139.367	-0.01	23.5780	23.5797	-0.01	-8.9723
102	135.000	135.126	-0.09	24.0414	24.0549	-0.06	-9.3310
1	133.878	133.864	0.01	24.1760	24.1745	0.01	-9.4347
1	133.773	133.763	0.00	24.1860	24.1856	0.00	-9.4424
101	130.000	130.202	-0.16	24.5581	24.5789	-0.08	-9.7282
1	129.657	129.687	-0.02	24.6110	24.6140	-0.01	-9.7688
1	125.825	125.839	-0.01	24.9990	25.0004	-0.01	-10.0648
1	121.893	121.856	0.02	25.3880	25.3854	0.01	-10.3589
1	117.746	117.727	0.02	25.7820	25.7802	0.01	-10.6521
1	113.772	113.801	-0.03	26.1460	26.1487	-0.01	-10.9166
1	109.611	109.591	0.02	26.5270	26.5252	0.01	-11.1833
1	105.165	105.191	-0.02	26.9160	26.9182	-0.01	-11.4404
1	101.434	101.416	0.02	27.2430	27.2414	0.01	-11.6403
1	97.173	97.165	0.01	27.6050	27.6043	0.00	-11.8390
1	93.512	93.532	-0.02	27.9100	27.9116	-0.01	-11.9836

NP = 184, TSRMSPT = 0.045, DNRMSPT = 2.185

Table 2-A. The second virial coefficient

5.050000000+002 1.697431768+001 -8.005503820+001
 1.235409580+002 -9.260135405+001 4.297412052+001

ID	T, K	T/TT	B*	CALC	PCNT
3	110.830	1.22221	-3.3010	-3.3143	-0.40
3	112.430	1.23985	-3.1990	-3.2037	-0.15
3	114.440	1.26202	-3.0780	-3.0750	0.10
3	116.780	1.28783	-2.9550	-2.9379	0.58
3	121.240	1.33701	-2.7450	-2.7085	1.35
4	126.571	1.39580	-2.4227	-2.4780	-2.23
3	128.830	1.42071	-2.4430	-2.3918	2.14
2	131.920	1.45479	-2.2400	-2.2831	-1.89
4	135.984	1.49960	-2.1520	-2.1540	-0.09
4	147.581	1.62749	-1.8500	-1.8505	-0.03
4	158.916	1.75249	-1.6151	-1.6184	-0.21
5	168.000	1.85267	-1.4750	-1.4636	0.78
4	173.507	1.91340	-1.3763	-1.3800	-0.27
5	176.000	1.94089	-1.3490	-1.3443	0.35
3	178.440	1.96780	-1.3220	-1.3106	0.87
5	184.000	2.02911	-1.2380	-1.2380	0.00
2	191.090	2.10730	-1.1631	-1.1527	0.90
4	191.129	2.10773	-1.1429	-1.1523	-0.81
5	192.000	2.11734	-1.1390	-1.1423	-0.29
5	200.000	2.20556	-1.0510	-1.0558	-0.46
2	200.030	2.20589	-1.0668	-1.0555	1.07
3	202.520	2.23335	-1.0340	-1.0302	0.37
5	210.000	2.31584	-0.9530	-0.9586	-0.59
5	220.000	2.42611	-0.8660	-0.8719	-0.67
3	221.130	2.43858	-0.8580	-0.8626	-0.54
5	230.000	2.53639	-0.7890	-0.7941	-0.64
5	240.000	2.64667	-0.7200	-0.7240	-0.56
2	240.020	2.64689	-0.7272	-0.7239	0.46
3	243.820	2.68880	-0.7030	-0.6991	0.56
5	260.000	2.86723	-0.6020	-0.6035	-0.25
1	273.150	3.01224	-0.5335	-0.5361	-0.48
2	273.150	3.01224	-0.5328	-0.5361	-0.61
3	273.170	3.01246	-0.5370	-0.5360	0.19
5	280.000	3.08778	-0.5050	-0.5041	0.17
1	298.142	3.28785	-0.4282	-0.4284	-0.04
5	300.000	3.30834	-0.4230	-0.4213	0.41
1	303.141	3.34298	-0.4091	-0.4095	-0.10
5	320.000	3.52889	-0.3540	-0.3515	0.72
1	323.140	3.56352	-0.3423	-0.3415	0.24
5	340.000	3.74945	-0.2940	-0.2920	0.70
1	348.143	3.83925	-0.2796	-0.2702	0.15
5	360.000	3.97000	-0.2420	-0.2407	0.55
1	373.150	4.11502	-0.2100	-0.2106	-0.29
5	380.000	4.19056	-0.1970	-0.1959	0.55
1	398.160	4.39082	-0.1587	-0.1598	-0.71
5	400.000	4.41112	-0.1570	-0.1564	0.40
1	423.170	4.66663	-0.1140	-0.1157	-1.45
1	448.182	4.94246	-0.0756	-0.0765	-1.18
5	450.000	4.96251	-0.0740	-0.0738	0.25
1	473.193	5.21827	-0.0416	-0.0411	1.25
3	136.740	1.50794	-2.1890	-2.1315	2.70
3	148.280	1.63520	-1.8770	-1.8347	2.31
5	160.000	1.76445	-1.6190	-1.5987	1.27
3	162.300	1.78981	-1.5840	-1.5580	1.67
2	215.030	2.37131	-0.9259	-0.9138	1.33
1	498.203	5.49408	-0.0116	-0.0085	36.85

NP = 50, RMSPCT = 0.786

Table 2-B. The third virial coefficient

139.92200 0.36212 0.83584 18.69531 9.15517

ID	T,K	T/TT	C*	CALC	PCNT
4	135.984	1.49960	-0.1497	-0.1497	0.00
4	147.581	1.62749	0.1950	0.1950	0.02
4	191.129	2.10773	0.3990	0.3990	-0.00
1	273.150	3.01224	0.2620	0.2634	-0.54
1	298.142	3.28785	0.2370	0.2358	0.52
1	303.141	3.34298	0.2320	0.2310	0.42
1	323.140	3.56352	0.2150	0.2144	0.30
1	348.143	3.83925	0.1975	0.1976	-0.06
1	373.150	4.11502	0.1834	0.1844	-0.52
1	398.160	4.39082	0.1727	0.1737	-0.55
1	423.170	4.66663	0.1640	0.1649	-0.53
1	448.182	4.94246	0.1585	0.1575	0.60
1	473.193	5.21827	0.1514	0.1513	0.04
1	498.203	5.49408	0.1465	0.1460	0.33
4	126.571	1.39580	-2.0500	-0.7277	181.70
4	158.916	1.75249	0.3580	0.3399	5.33
4	173.507	1.91340	0.4381	0.4010	9.26
2	191.090	2.10730	0.4741	0.3990	18.81
2	200.030	2.20589	0.4351	0.3860	12.71
2	215.030	2.37131	0.4169	0.3586	16.27
2	240.020	2.64689	0.3508	0.3125	12.25
2	273.150	3.01224	0.2670	0.2634	1.34

NP = 14, RMSPCT = 0.393

Table 3, Summary of P- ρ -T data*

I. D.	Authors	Range of the Variables				Deviations, %	
		mol/l	T, °K	P, bar	N	$\Delta d/d$	$\Delta P/P$
2	virial equation, this report	1.0 - 2.0	150 - 270	10 - 40	46	0.04	0.03
xxx	NBS [30], and this report	3.0 - 28.2	92 - 300	3 - 350	554	0.19	0.50
3	Vennix [66]	2.6 - 22.3	173 - 273	25 - 650	279	---	0.63
4	van Itterbeek [65]	16.3 - 27.6	115 - 188	9 - 320	163	0.37	6.55
6	Douslin [17]	0.8 - 12.5	273 - 398	16 - 400	171	0.07	0.05
8	Kvalnes [41]	0.03- 25.3	203 - 473	1 - 1010	158	0.93	0.81
10	Cheng [9]	14.0 - 29.0	111 - 309	220 - 1100	66	0.33	2.04

* The equation of state was adjusted only to data of ID = 2, 6, and NBS.

Table 4. Comparison of experimental and calculated P- ρ -T values

The following pages compare experimental P- ρ -T (compressibility) data with densities and pressures computed by the equation of state (6). The first column identifies sources of the data (as in table 3) --

ID = 2, Via Virial and Vapor-Pressure equations;

ID = 3, Vennix [66];

ID = 4, van Itterbeek [65];

ID = 6, Douslin [17];

ID = 8, Kvalnes [41];

ID = 10, Cheng [9];

ID = xxx, xxxx, this laboratory [30].

The equation of state was adjusted only to data of ID = 2, 6 and this laboratory. Remaining data validate our extrapolation to higher pressures. Density deviations should be ignored near the critical point, and pressure deviations should be ignored for compressed liquid at low temperatures for reasons given in the text. A few of Vennix' data near the critical point have spurious, extreme density deviations because our computer search assigns the opposite phase via eq (6), (i.e. vapor vs. liquid).

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCO	D,PCT	P,BAR	CALCO	P,PCT
2	150.000	1.0000	1.0007	-0.07	10.260	10.255	0.05
2	155.000	1.0000	1.0008	-0.08	10.744	10.738	0.06
2	160.000	1.0000	1.0007	-0.07	11.222	11.216	0.06
2	165.000	1.0000	1.0006	-0.06	11.696	11.690	0.05
2	170.000	1.0000	1.0004	-0.04	12.165	12.161	0.04
2	175.000	1.0000	1.0003	-0.03	12.632	12.629	0.02
2	180.000	1.0000	1.0001	-0.01	13.096	13.095	0.01
2	185.000	1.0000	1.0000	-0.00	13.559	13.559	0.00
2	190.000	1.0000	0.9999	0.01	14.020	14.021	-0.01
2	195.000	1.0000	0.9998	0.02	14.479	14.481	-0.01
2	200.000	1.0000	0.9998	0.02	14.937	14.940	-0.02
2	205.000	1.0000	0.9998	0.02	15.394	15.398	-0.02
2	210.000	1.0000	0.9997	0.03	15.851	15.854	-0.02
2	215.000	1.0000	0.9998	0.02	16.306	16.310	-0.02
2	220.000	1.0000	0.9998	0.02	16.761	16.764	-0.02
2	225.000	1.0000	0.9998	0.02	17.215	17.218	-0.02
2	230.000	1.0000	0.9998	0.02	17.668	17.671	-0.02
2	235.000	1.0000	0.9999	0.01	18.120	18.123	-0.01
2	240.000	1.0000	0.9999	0.01	18.572	18.574	-0.01
2	245.000	1.0000	0.9999	0.01	19.023	19.025	-0.01
2	250.000	1.0000	1.0000	0.00	19.474	19.475	-0.00
2	255.000	1.0000	1.0000	0.00	19.924	19.924	-0.00
2	260.000	1.0000	1.0000	-0.00	20.373	20.373	0.00
2	265.000	1.0000	1.0000	-0.00	20.822	20.822	0.00
2	270.000	1.0000	1.0001	-0.01	21.271	21.270	0.01
2	170.000	2.0000	1.9996	0.02	20.616	20.618	-0.01
2	175.000	2.0000	1.9993	0.04	21.663	21.666	-0.03
2	180.000	2.0000	1.9990	0.05	22.697	22.705	-0.04
2	185.000	2.0000	1.9988	0.06	23.721	23.732	-0.04
2	190.000	2.0000	1.9986	0.07	24.737	24.750	-0.05
2	195.000	2.0000	1.9986	0.07	25.745	25.760	-0.06
2	200.000	2.0000	1.9985	0.07	26.748	26.763	-0.06
2	205.000	2.0000	1.9986	0.07	27.746	27.761	-0.06
2	210.000	2.0000	1.9987	0.07	28.739	28.754	-0.05
2	215.000	2.0000	1.9988	0.06	29.729	29.743	-0.05
2	220.000	2.0000	1.9990	0.05	30.715	30.728	-0.04
2	225.000	2.0000	1.9992	0.04	31.698	31.709	-0.03
2	230.000	2.0000	1.9994	0.03	32.677	32.688	-0.03
2	235.000	2.0000	1.9995	0.02	33.654	33.661	-0.02
2	240.000	2.0000	1.9997	0.01	34.629	34.633	-0.01
2	245.000	2.0000	1.9999	0.01	35.601	35.602	-0.01
2	250.000	2.0000	2.0000	-0.00	36.570	36.570	0.00
2	255.000	2.0000	2.0002	-0.01	37.537	37.534	0.01
2	260.000	2.0000	2.0003	-0.01	38.502	38.497	0.01
2	265.000	2.0000	2.0004	-0.02	39.465	39.458	0.02
2	270.000	2.0000	2.0004	-0.02	40.426	40.418	0.02

NP = 46, ONRMSPT = 0.039, PMEANPCT = 0.025

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
3	172.527	2.5593	2.5643	-0.19	24.660	24.634	0.11
3	174.691	2.5593	2.5649	-0.22	25.283	25.251	0.13
3	177.203	2.5586	2.5648	-0.24	25.994	25.956	0.14
3	183.176	2.5580	2.5651	-0.28	27.666	27.617	0.18
3	190.532	2.5577	2.5635	-0.23	29.676	29.631	0.15
3	191.849	2.5568	2.5639	-0.28	30.038	29.981	0.19
3	203.084	2.5555	2.5621	-0.26	33.048	32.986	0.19
3	213.041	2.5543	2.5613	-0.24	35.672	35.608	0.18
3	217.864	2.5537	2.5534	-0.22	36.931	36.867	0.17
3	223.831	2.5530	2.5545	-0.22	38.481	38.415	0.17
3	233.546	2.5518	2.5573	-0.22	40.990	40.918	0.18
3	239.797	2.5512	2.5553	-0.20	42.590	42.520	0.16
3	252.333	2.5499	2.5538	-0.15	45.897	45.838	0.13
3	263.399	2.5487	2.5519	-0.13	48.559	48.505	0.11
3	273.380	2.5474	2.5502	-0.11	51.058	51.006	0.10
3	190.429	6.4670	5.3216	2.25	44.720	44.893	-0.39
3	190.532	6.4686	5.3236	2.21	44.814	44.987	-0.39
3	208.574	6.4614	5.4450	0.24	60.270	60.334	-0.11
3	223.234	6.4571	5.4550	0.02	72.346	72.353	-0.01
3	234.440	6.4539	5.4568	-0.05	81.433	81.409	0.03
3	243.733	6.4508	5.4570	-0.10	88.913	88.851	0.07
3	243.773	6.4508	5.4535	-0.09	88.939	88.883	0.06
3	251.376	6.4483	5.4556	-0.11	95.018	94.937	0.08
3	262.190	6.4452	5.4527	-0.12	103.601	103.505	0.09
3	272.155	6.4421	5.4508	-0.13	111.478	111.352	0.11
3	272.185	6.4421	5.4503	-0.13	111.494	111.376	0.11
3	190.052	7.2329	5.9774	3.53	44.989	45.132	-0.32
3	190.532	7.2348	7.0176	3.00	45.493	45.631	-0.30
3	190.750	7.2329	7.0131	2.96	45.710	45.855	-0.32
3	191.032	7.2341	7.0347	2.76	46.001	46.145	-0.31
3	193.325	7.2316	7.1136	1.59	48.336	48.462	-0.26
3	197.737	7.2304	7.1732	0.79	52.722	52.826	-0.20
3	202.753	7.2285	7.2001	0.39	57.627	57.702	-0.13
3	208.224	7.2266	7.2134	0.18	62.909	62.956	-0.07
3	212.165	7.2254	7.2231	0.07	66.689	66.712	-0.03
3	217.136	7.2235	7.2237	-0.00	71.421	71.420	0.00
3	222.926	7.2217	7.2273	-0.08	76.909	76.875	0.04
3	230.050	7.2192	7.2233	-0.13	83.614	83.548	0.08
3	237.336	7.2167	7.2276	-0.15	90.432	90.338	0.10
3	242.709	7.2148	7.2253	-0.16	95.434	95.325	0.11
3	248.444	7.2129	7.2247	-0.16	100.757	100.633	0.12
3	250.194	7.2123	7.2241	-0.16	102.376	102.249	0.12
3	253.445	7.2111	7.2227	-0.16	105.378	105.247	0.12
3	253.642	7.2092	7.2219	-0.16	110.172	110.029	0.13
3	263.050	7.2079	7.2134	-0.16	114.229	114.080	0.13
3	263.301	7.2061	7.2175	-0.16	119.049	118.891	0.13
3	273.171	7.2042	7.2153	-0.15	123.504	123.340	0.13
3	191.032	9.8464	4.5146	13.47	46.579	46.673	-0.20
3	191.551	9.8370	3.1034	7.40	47.318	47.416	-0.21
3	192.938	9.8364	3.5031	3.39	49.282	49.400	-0.24
3	195.243	9.8351	3.6600	1.78	52.563	52.595	-0.25
3	197.562	9.8345	3.7131	1.21	55.870	56.010	-0.25

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
3	200.411	9.8333	3.7715	0.63	59.977	60.083	-0.18
3	202.829	9.8320	3.7733	0.58	63.417	63.541	-0.20
3	206.370	9.8301	3.7939	0.37	68.503	68.607	-0.15
3	213.503	9.8270	3.8151	0.12	78.771	78.823	-0.07
3	223.647	9.8220	3.8250	-0.04	93.389	93.363	0.03
3	236.398	9.8158	3.8235	-0.13	111.767	111.649	0.11
3	248.147	9.8108	3.8255	-0.15	128.674	128.499	0.14
3	255.163	9.8071	3.8224	-0.16	138.749	138.543	0.15
3	273.167	9.7990	3.8115	-0.13	164.504	164.284	0.13
3	191.032	10.2157	8.8057	13.79	46.607	46.695	-0.19
3	190.839	10.2128	8.5533	16.19	46.342	46.408	-0.14
3	191.040	10.2128	8.8045	13.79	46.618	46.707	-0.19
3	191.229	10.2128	9.2037	9.82	46.900	46.988	-0.19
3	191.428	10.2128	9.3866	8.09	47.188	47.284	-0.20
3	191.820	10.2128	9.6035	5.91	47.762	47.867	-0.22
3	192.076	10.2128	9.5636	5.33	48.131	48.249	-0.24
3	193.522	10.2115	9.8983	3.07	50.263	50.407	-0.29
3	195.158	10.2109	10.0060	2.01	52.700	52.854	-0.29
3	197.926	10.2096	10.0779	1.29	56.836	57.004	-0.30
3	200.575	10.2084	10.1137	0.93	60.814	60.985	-0.28
3	204.037	10.2065	10.1425	0.63	66.036	66.196	-0.24
3	207.855	10.2047	10.1577	0.46	71.799	71.954	-0.22
3	207.855	10.2047	10.1631	0.36	71.833	71.954	-0.17
3	213.044	10.2022	10.1786	0.23	79.091	79.795	-0.13
3	233.386	10.1922	10.1934	-0.06	110.688	110.633	0.05
3	252.887	10.1829	10.1934	-0.10	140.387	140.245	0.10
3	273.016	10.1729	10.1825	-0.09	170.925	170.750	0.10
3	273.058	10.1729	10.1324	-0.09	170.987	170.814	0.10
3	190.532	11.1588	7.7126	30.88	45.834	45.953	-0.26
3	191.032	11.1582	9.3231	16.39	46.643	46.755	-0.24
3	191.848	11.1543	10.6174	4.81	47.983	48.091	-0.22
3	191.873	11.1543	10.5438	5.45	48.009	48.132	-0.26
3	193.248	11.1537	10.7339	3.18	50.248	50.410	-0.32
3	195.110	11.1531	10.9238	2.01	53.340	53.525	-0.35
3	197.300	11.1518	10.9776	1.56	56.992	57.216	-0.39
3	199.216	11.1506	11.0123	1.24	60.228	60.462	-0.39
3	200.901	11.1500	11.0336	1.03	63.092	63.329	-0.36
3	203.064	11.1487	11.0557	0.83	66.782	67.021	-0.36
3	207.564	11.1462	11.0837	0.54	74.518	74.737	-0.29
3	213.197	11.1431	11.1054	0.33	84.266	84.446	-0.22
3	213.204	11.1431	11.1073	0.32	84.282	84.460	-0.21
3	213.212	11.1431	11.1057	0.33	84.293	84.474	-0.21
3	223.184	11.1375	11.1237	0.12	101.600	101.763	-0.10
3	233.161	11.1325	11.1300	0.02	119.122	119.146	-0.02
3	243.137	11.1269	11.1237	-0.03	136.601	136.566	0.03
3	253.153	11.1219	11.1246	-0.02	154.123	154.083	0.03
3	263.124	11.1163	11.1188	-0.02	171.554	171.510	0.03
3	273.092	11.1113	11.1139	-0.02	188.977	188.924	0.03
3	273.150	11.1113	11.1054	0.04	188.927	189.026	-0.05
3	191.032	11.7666	10.3152	12.33	46.701	46.826	-0.27
3	192.498	11.7625	11.5148	2.11	49.295	49.402	-0.22
3	195.840	11.7607	11.6275	1.13	55.256	55.412	-0.28
3	198.182	11.7594	11.6532	0.85	59.511	59.683	-0.29

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
3	203.434	11.7563	11.6938	0.51	69.192	69.370	-0.26
3	212.034	11.7513	11.7257	0.21	85.308	85.435	-0.15
3	212.035	11.7513	11.7238	0.21	85.310	85.437	-0.15
3	222.632	11.7451	11.7439	0.04	105.407	105.441	-0.03
3	233.402	11.7395	11.7432	-0.03	125.956	125.916	0.03
3	233.403	11.7395	11.7446	-0.04	125.973	125.918	0.04
3	237.033	11.7370	11.7446	-0.06	132.922	132.832	0.07
3	237.034	11.7370	11.7443	-0.06	132.920	132.833	0.07
3	243.378	11.7332	11.7416	-0.07	145.053	144.937	0.08
3	243.381	11.7332	11.7410	-0.07	145.050	144.943	0.07
3	253.284	11.7283	11.7352	-0.06	163.987	163.875	0.07
3	263.449	11.7220	11.7278	-0.05	183.402	183.291	0.06
3	268.300	11.7195	11.7254	-0.05	192.683	192.562	0.06
3	268.300	11.7195	11.7251	-0.05	192.678	192.562	0.06
3	272.694	11.7170	11.7216	-0.04	201.050	200.949	0.05
3	272.695	11.7170	11.7215	-0.04	201.049	200.951	0.05
3	272.698	11.7170	11.7211	-0.03	201.046	200.957	0.04
3	190.032	12.8681	7.5715	41.16	45.236	45.326	-0.20
3	191.032	12.8675	12.7901	0.60	47.247	47.306	-0.13
3	190.532	12.8681	12.7514	0.91	46.239	46.312	-0.16
3	190.703	12.8636	12.7931	0.55	46.599	46.646	-0.11
3	191.454	12.8636	12.8027	0.47	48.697	48.153	-0.12
3	192.397	12.8630	12.7839	0.64	49.969	50.065	-0.19
3	196.505	12.8605	12.8326	0.22	58.521	58.587	-0.11
3	203.573	12.8562	12.8550	0.00	73.642	73.643	-0.00
3	209.295	12.8524	12.8639	-0.03	86.110	86.039	0.08
3	218.022	12.8468	12.8679	-0.16	106.682	106.492	0.18
3	228.103	12.8406	12.8641	-0.18	127.755	127.474	0.22
3	238.550	12.8343	12.8578	-0.18	151.093	150.735	0.24
3	245.920	12.8294	12.8439	-0.16	167.546	167.186	0.21
3	252.972	12.8250	12.8450	-0.16	183.347	182.951	0.22
3	260.108	12.8206	12.8393	-0.14	199.300	198.910	0.20
3	267.312	12.8163	12.8338	-0.11	215.373	215.019	0.16
3	274.151	12.8119	12.8226	-0.08	230.576	230.292	0.12
3	188.969	13.7516	13.7430	0.04	43.856	43.864	-0.02
3	189.258	13.7510	13.7439	0.02	44.562	44.505	-0.01
3	189.767	13.7510	13.7474	0.03	45.639	45.644	-0.01
3	190.332	13.7545	13.7438	0.03	46.240	46.248	-0.02
3	190.172	13.7504	13.7455	0.04	46.549	46.557	-0.02
3	191.032	13.7539	13.7544	-0.00	48.523	48.522	0.00
3	190.447	13.7504	13.7433	0.01	47.177	47.181	-0.01
3	190.532	13.7545	13.7530	0.01	47.379	47.381	-0.01
3	190.738	13.7504	13.7437	0.01	47.840	47.843	-0.01
3	191.075	13.7497	13.7513	-0.01	48.615	48.611	0.01
3	192.892	13.7485	13.7528	-0.03	52.817	52.805	0.02
3	195.048	13.7473	13.7573	-0.07	57.893	57.859	0.06
3	195.065	13.7473	13.7556	-0.06	57.928	57.899	0.05
3	197.100	13.7460	13.7637	-0.11	62.787	62.727	0.10
3	200.010	13.7441	13.7651	-0.15	69.812	69.704	0.15
3	203.322	13.7416	13.7639	-0.21	77.904	77.726	0.23
3	207.197	13.7392	13.7733	-0.23	87.439	87.202	0.27
3	213.323	13.7348	13.7743	-0.29	102.706	102.320	0.38
3	222.792	13.7286	13.7639	-0.28	126.432	125.931	0.40

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
3	227.846	13.7254	13.7630	-0.27	139.174	138.615	0.40
3	233.272	13.7217	13.7531	-0.27	152.884	152.272	0.40
3	238.508	13.7180	13.7518	-0.25	166.169	165.479	0.38
3	242.985	13.7148	13.7406	-0.23	177.429	176.786	0.36
3	248.766	13.7111	13.7338	-0.20	192.026	191.409	0.32
3	253.111	13.7086	13.7335	-0.18	203.005	202.412	0.29
3	258.314	13.7049	13.7273	-0.16	216.145	215.573	0.26
3	262.932	13.7018	13.7222	-0.15	227.811	227.255	0.24
3	267.819	13.6986	13.7150	-0.13	240.117	239.614	0.21
3	267.886	13.6986	13.7150	-0.13	240.238	239.784	0.21
3	273.153	13.6949	13.7100	-0.11	253.551	253.085	0.18
3	187.649	14.9705	14.9416	0.19	43.274	43.375	-0.23
3	188.927	14.9699	14.9507	0.13	46.771	46.849	-0.17
3	190.532	14.9732	14.9539	0.10	51.216	51.285	-0.14
3	191.453	14.9680	14.9620	0.04	53.786	53.818	-0.06
3	194.804	14.9655	14.9707	-0.03	63.256	63.221	0.06
3	199.611	14.9618	14.9815	-0.13	77.104	76.930	0.23
3	203.054	14.9593	14.9852	-0.17	87.135	86.868	0.31
3	207.627	14.9562	14.9880	-0.21	100.574	100.163	0.39
3	212.935	14.9524	14.9872	-0.23	116.265	115.759	0.44
3	221.360	14.9462	14.9816	-0.24	141.310	140.676	0.45
3	228.637	14.9406	14.9743	-0.23	163.016	162.304	0.44
3	236.599	14.9350	14.9652	-0.20	186.801	186.064	0.39
3	245.086	14.9287	14.9542	-0.17	212.140	211.429	0.34
3	253.068	14.9225	14.9444	-0.15	235.968	235.284	0.29
3	260.836	14.9169	14.9326	-0.11	259.036	258.498	0.21
3	268.824	14.9113	14.9213	-0.07	282.716	282.341	0.13
3	275.154	14.9063	14.9137	-0.05	301.472	301.178	0.10
3	183.351	16.5234	16.4653	0.35	38.252	38.709	-1.19
3	185.267	16.5215	16.4689	0.32	44.884	45.360	-1.06
3	189.259	16.5184	16.4806	0.23	58.970	59.402	-0.73
3	190.532	16.5223	16.4839	0.23	63.513	63.981	-0.74
3	194.419	16.5140	16.4931	0.13	77.509	77.810	-0.39
3	198.420	16.5109	16.4947	0.10	91.963	92.232	-0.29
3	201.044	16.5084	16.5030	0.03	101.638	101.736	-0.10
3	207.770	16.5028	16.4933	0.02	126.173	126.248	-0.06
3	213.668	16.4978	16.4937	-0.01	147.882	147.859	0.02
3	222.893	16.4903	16.4911	-0.01	181.824	181.799	0.01
3	232.812	16.4822	16.4816	0.00	218.350	218.371	-0.01
3	241.295	16.4754	16.4735	0.01	249.578	249.653	-0.03
3	254.531	16.4648	16.4572	0.05	298.027	298.372	-0.12
3	261.826	16.4586	16.4477	0.07	324.594	325.124	-0.16
3	267.883	16.4536	16.4401	0.08	345.584	347.284	-0.20
3	272.981	16.4492	16.4329	0.10	364.997	365.878	-0.24
3	179.140	17.5640	17.5343	0.17	33.044	33.416	-1.13
3	179.830	17.5634	17.5336	0.17	35.849	36.237	-1.08
3	181.008	17.5622	17.5324	0.17	40.651	41.064	-1.02
3	184.441	17.5590	17.5311	0.16	54.773	55.227	-0.83
3	190.532	17.5595	17.5279	0.18	80.090	80.733	-0.60
3	195.384	17.5465	17.5232	0.14	104.601	105.209	-0.58
3	200.537	17.5447	17.5251	0.11	122.244	122.740	-0.41
3	208.822	17.5379	17.5243	0.08	157.426	157.856	-0.27
3	217.044	17.5304	17.5173	0.07	192.276	192.756	-0.25

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
3	225.022	17.5235	17.5074	0.09	225.974	226.639	-0.29
3	233.079	17.5160	17.4980	0.10	259.963	260.790	-0.32
3	240.396	17.5092	17.4878	0.12	293.223	294.297	-0.37
3	250.735	17.5005	17.4747	0.15	333.924	335.357	-0.43
3	258.646	17.4936	17.4634	0.19	366.598	368.580	-0.54
3	266.750	17.4868	17.4434	0.21	400.092	402.485	-0.60
3	274.303	17.4799	17.4332	0.23	431.136	433.901	-0.64
3	182.834	18.4888	18.4233	0.32	65.518	66.974	-2.22
3	182.834	18.4888	18.4292	0.33	65.491	66.974	-2.26
3	175.629	18.4956	18.4331	0.34	31.376	32.556	-3.76
3	178.081	18.4931	18.4311	0.34	42.935	44.226	-3.01
3	188.292	18.4838	18.4237	0.30	91.648	93.222	-1.72
3	190.532	18.4871	18.4231	0.32	102.401	104.183	-1.74
3	193.630	18.4788	18.4274	0.28	117.303	118.966	-1.42
3	198.667	18.4738	18.4258	0.26	141.558	143.283	-1.22
3	203.156	18.4695	18.4237	0.25	163.161	164.966	-1.09
3	208.214	18.4651	18.4234	0.24	187.511	189.407	-1.01
3	212.424	18.4607	18.4152	0.24	207.694	209.701	-0.97
3	218.758	18.4551	18.4107	0.24	238.049	240.234	-0.92
3	223.742	18.4501	18.4050	0.24	261.867	264.179	-0.88
3	229.135	18.4452	18.3931	0.25	287.485	290.057	-0.89
3	233.395	18.4414	18.3940	0.26	307.683	310.455	-0.90
3	237.607	18.4377	18.3938	0.27	327.596	330.581	-0.91
3	243.055	18.4321	18.3817	0.27	353.252	356.490	-0.92
3	248.039	18.4277	18.3745	0.29	376.587	380.163	-0.95
3	253.126	18.4227	18.3677	0.30	400.348	404.213	-0.97
3	263.283	18.4134	18.3542	0.32	447.525	452.030	-1.01
3	272.927	18.4047	18.3430	0.35	491.840	497.120	-1.07
3	172.566	19.9962	19.9136	0.38	55.609	57.865	-5.19
3	178.480	19.9899	19.9112	0.39	90.082	93.425	-3.71
3	186.850	19.9812	19.9039	0.39	139.761	143.593	-2.74
3	190.532	19.9838	19.9036	0.42	161.544	165.926	-2.71
3	196.089	19.9719	19.8952	0.38	194.310	198.683	-2.25
3	204.181	19.9631	19.8872	0.38	241.785	246.590	-1.99
3	211.525	19.9557	19.8811	0.38	284.629	289.837	-1.83
3	219.063	19.9476	19.8715	0.38	328.253	333.915	-1.72
3	227.105	19.9395	19.8636	0.40	374.341	380.662	-1.63
3	235.300	19.9314	19.8532	0.41	421.001	427.972	-1.66
3	244.174	19.9220	19.8355	0.43	470.891	478.751	-1.67
3	253.828	19.9120	19.8238	0.44	524.859	533.539	-1.65
3	259.343	19.9064	19.8154	0.45	555.441	564.625	-1.65
3	267.733	19.8977	19.7936	0.49	601.053	611.585	-1.75
3	274.489	19.8909	19.7922	0.50	638.125	649.145	-1.73
3	172.766	21.2132	21.1204	0.44	113.831	119.516	-4.99
3	176.889	21.2088	21.1149	0.44	142.805	148.924	-4.28
3	181.069	21.2032	21.1114	0.44	176.336	182.788	-3.66
3	189.783	21.1939	21.0930	0.45	232.523	239.806	-3.13
3	190.532	21.2000	21.0932	0.48	237.772	245.586	-3.24
3	197.315	21.1858	21.0913	0.45	284.387	292.251	-2.77
3	204.169	21.1783	21.0853	0.44	331.269	339.541	-2.50
3	212.644	21.1689	21.0753	0.44	388.576	397.459	-2.29
3	228.430	21.1509	21.0550	0.45	493.464	503.735	-2.08
3	235.778	21.1428	21.0460	0.46	541.550	552.567	-2.03
3	247.380	21.1303	21.0234	0.48	616.528	628.871	-2.00
3	252.992	21.1241	21.0205	0.49	652.311	665.402	-2.01
3	168.753	22.4109	22.3149	0.43	169.422	177.799	-4.94
3	180.116	22.3972	22.3038	0.42	262.665	271.877	-3.50
3	188.528	22.3872	22.2946	0.41	330.450	340.255	-2.98
3	190.532	22.3918	22.2923	0.44	346.440	357.215	-3.11
3	196.791	22.3772	22.2831	0.40	396.392	406.540	-2.56
3	204.366	22.3679	22.2803	0.39	455.919	466.487	-2.32
3	211.255	22.3598	22.2725	0.39	509.403	520.447	-2.17
3	218.293	22.3517	22.2647	0.39	563.516	575.038	-2.04
3	226.285	22.3417	22.2541	0.39	624.075	636.262	-1.95
3	234.420	22.3324	22.2443	0.40	685.032	698.015	-1.90

NP = 276, DNRHSPCT = 3.971, P1EANPCT = 0.626

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
4	114.524	26.1376	26.1252	0.04	8.945	10.848	-21.28
4	114.524	26.3609	26.3539	0.04	47.517	49.285	-3.72
4	114.524	26.5104	26.5048	0.02	75.421	76.465	-1.36
4	114.524	26.6581	26.6549	0.01	103.824	104.451	-0.60
4	114.524	26.8046	26.8042	0.00	133.256	133.335	-0.06
4	114.524	26.9535	26.9515	0.01	163.436	163.841	-0.25
4	114.524	27.1032	27.1075	-0.02	196.656	195.721	0.48
4	114.524	27.2643	27.2632	-0.02	232.450	231.342	0.48
4	114.524	27.4311	27.4331	-0.03	271.554	269.669	0.69
4	114.524	27.6091	27.6123	-0.01	312.987	312.186	0.26
4	119.420	25.6812	25.6658	0.06	8.328	10.640	-27.76
4	119.420	25.8345	25.8031	0.10	30.274	34.267	-13.19
4	119.420	26.0308	26.0055	0.09	62.146	66.202	-6.53
4	119.420	26.2681	26.2495	0.07	104.007	107.328	-3.19
4	119.420	26.5034	26.4939	0.04	149.093	150.912	-1.22
4	119.420	26.7480	26.7439	0.02	198.372	199.213	-0.42
4	119.420	27.0051	27.0070	-0.01	253.748	253.336	0.16
4	119.420	27.2546	27.2333	-0.12	316.910	309.143	2.45
4	124.917	25.2010	25.1442	0.23	9.796	17.426	-77.89
4	124.917	25.4421	25.3976	0.17	44.960	51.433	-14.40
4	124.917	25.6911	25.6533	0.13	84.186	89.350	-6.13
4	124.917	25.9383	25.9106	0.11	125.190	129.872	-3.74
4	124.917	26.1725	26.1637	0.05	168.829	170.976	-1.27
4	124.917	26.4264	26.4233	0.01	217.985	218.572	-0.27
4	124.917	26.6966	26.7007	-0.02	273.638	272.787	0.31
4	130.987	24.5924	24.5737	0.08	15.025	17.214	-14.57
4	130.987	24.8361	24.8290	0.03	46.246	47.150	-1.95
4	130.987	25.1307	25.0732	0.21	79.344	86.654	-9.21
4	130.987	25.3524	25.3279	0.10	115.200	118.863	-3.18
4	130.987	25.5826	25.6019	-0.08	157.736	154.633	1.97
4	130.987	25.8251	25.8536	-0.13	200.714	194.930	2.88
4	130.987	26.0879	26.1238	-0.16	249.306	241.722	3.04
4	130.987	26.3657	26.4052	-0.15	302.874	294.827	2.66
4	134.328	24.1949	24.1473	0.20	6.891	11.923	-73.02
4	134.328	24.3807	24.3340	0.19	27.123	32.403	-19.47
4	134.328	24.6433	24.5952	0.19	57.831	63.641	-10.05
4	134.328	24.9029	24.8533	0.18	91.296	97.266	-6.54
4	134.328	25.1534	25.1219	0.13	127.826	132.397	-3.58
4	134.328	25.4039	25.3734	0.11	166.255	170.539	-2.58
4	134.328	25.6634	25.6450	0.07	209.466	212.388	-1.39
4	134.328	25.9323	25.9231	0.04	257.678	259.330	-0.64
4	134.328	26.2171	26.2043	0.05	310.290	312.791	-0.81
4	139.061	23.7344	23.6811	0.22	12.524	17.586	-40.42
4	139.061	23.9958	23.9418	0.22	38.254	43.881	-14.71
4	139.061	24.2618	24.2118	0.21	67.490	73.206	-8.47
4	139.061	24.5236	24.4750	0.19	98.761	104.689	-6.00
4	139.061	24.7801	24.7366	0.18	132.300	138.154	-4.43
4	139.061	25.0332	25.0000	0.13	169.001	173.822	-2.85
4	139.061	25.2934	25.2700	0.09	209.662	213.327	-1.75
4	139.061	25.5571	25.5488	0.03	254.969	256.388	-0.56
4	139.061	25.8465	25.8337	0.03	306.000	307.237	-0.40
4	145.556	22.9848	22.9253	0.26	12.996	17.661	-35.90

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
4	145.556	23.2623	23.1979	0.28	35.276	40.885	-15.90
4	145.556	23.5355	23.4750	0.26	60.368	66.181	-9.63
4	145.556	23.8146	23.7458	0.29	87.361	94.632	-8.32
4	145.556	24.0836	24.0138	0.27	117.186	124.655	-6.37
4	145.556	24.3522	24.2871	0.27	149.131	157.295	-5.47
4	145.556	24.6202	24.5569	0.26	184.018	192.616	-4.67
4	145.556	24.8961	24.8323	0.26	222.583	231.956	-4.21
4	145.556	25.1794	25.1130	0.24	265.891	275.643	-3.67
4	145.556	25.4706	25.4150	0.22	314.581	324.117	-3.03
4	150.750	22.6157	22.5234	0.39	31.021	37.422	-20.63
4	150.750	22.8932	22.8029	0.39	51.885	59.239	-14.17
4	150.750	23.1664	23.0737	0.38	75.115	82.993	-10.49
4	150.750	23.4373	23.3511	0.37	100.392	108.897	-8.47
4	150.750	23.6995	23.6232	0.32	128.071	136.284	-6.41
4	150.750	23.9630	23.8831	0.31	157.454	166.210	-5.56
4	150.750	24.2248	24.1533	0.27	190.000	198.424	-4.43
4	150.750	24.4972	24.4350	0.25	226.137	234.670	-3.77
4	150.750	24.7733	24.7136	0.22	266.405	274.367	-2.99
4	150.750	25.0576	25.0038	0.21	309.862	318.466	-2.78
4	158.238	21.5318	21.3950	0.64	22.895	30.151	-31.69
4	158.238	21.8341	21.6931	0.62	39.627	47.766	-20.55
4	158.238	22.1371	22.0032	0.58	58.951	67.730	-14.89
4	158.238	22.4371	22.3117	0.56	80.251	89.892	-12.01
4	158.238	22.7293	22.6111	0.52	103.898	113.907	-9.63
4	158.238	23.0171	22.9029	0.50	129.358	140.019	-8.24
4	158.238	23.3008	23.1938	0.45	157.625	168.279	-6.76
4	158.238	23.5838	23.4946	0.38	189.080	199.076	-5.29
4	158.238	23.8720	23.7933	0.33	223.624	233.244	-4.30
4	158.238	24.1692	24.1933	0.31	261.723	271.556	-3.76
4	158.238	24.4708	24.4071	0.26	304.591	313.800	-3.02
4	165.816	20.4637	20.3847	0.39	30.556	33.649	-10.12
4	165.816	20.7641	20.6630	0.46	42.201	46.508	-10.21
4	165.816	21.0624	20.9530	0.45	56.269	61.084	-8.56
4	165.816	21.3570	21.2541	0.48	71.461	77.373	-8.27
4	165.816	21.6506	21.5237	0.56	87.839	95.592	-8.83
4	165.816	21.9356	21.8039	0.58	106.276	115.284	-8.48
4	165.816	22.2193	22.0725	0.66	125.484	136.964	-9.15
4	165.816	22.5012	22.3333	0.72	146.706	160.681	-9.52
4	165.816	22.7790	22.6035	0.77	169.835	186.266	-9.68
4	165.816	23.0595	22.8676	0.83	194.903	214.443	-10.03
4	165.816	23.3427	23.1326	0.90	222.178	245.385	-10.45
4	165.816	23.6300	23.4040	0.96	252.431	279.481	-10.72
4	165.816	23.9143	23.7032	0.87	288.859	315.989	-9.39
4	171.020	19.4606	19.4322	0.15	30.512	31.299	-2.58
4	171.020	19.7578	19.7375	0.10	39.620	40.274	-1.65
4	171.020	20.0678	20.0337	0.17	49.881	51.157	-2.56
4	171.020	20.3741	20.3346	0.19	61.856	63.549	-2.74
4	171.020	20.6778	20.6314	0.22	75.316	77.579	-3.00
4	171.020	20.9802	20.9216	0.28	90.173	93.388	-3.56
4	171.020	21.2743	21.2031	0.33	106.293	110.649	-4.10
4	171.020	21.5629	21.4829	0.37	124.080	129.500	-4.37
4	171.020	21.8484	21.7519	0.45	142.859	150.132	-5.09
4	171.020	22.1273	22.0216	0.48	163.662	172.301	-5.28

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
4	171.020	22.4120	22.2913	0.54	186.301	197.078	-5.78
4	171.020	22.6901	22.5537	0.57	210.832	223.499	-6.01
4	171.020	22.9769	22.8351	0.62	238.168	253.135	-6.28
4	171.020	23.2672	23.1122	0.67	268.002	285.736	-6.62
4	171.020	23.5605	23.3938	0.71	300.808	321.453	-6.86
4	172.812	18.9036	18.8931	0.03	26.918	27.038	-0.45
4	172.812	19.2171	19.2037	0.07	34.175	34.523	-1.02
4	172.812	19.5431	19.5216	0.11	43.111	43.769	-1.53
4	172.812	19.8681	19.8411	0.14	53.641	54.607	-1.80
4	172.812	20.1873	20.1525	0.17	65.532	66.968	-2.19
4	172.812	20.5019	20.4593	0.21	78.943	80.944	-2.54
4	172.812	20.8125	20.7622	0.24	93.958	96.631	-2.84
4	172.812	21.1153	21.0558	0.28	110.311	113.852	-3.21
4	172.812	21.4142	21.3556	0.27	128.956	132.844	-3.01
4	172.812	21.7122	21.6420	0.32	148.729	153.877	-3.46
4	172.812	22.0066	21.9151	0.42	169.458	176.823	-4.35
4	172.812	22.3015	22.2030	0.44	193.398	202.108	-4.50
4	172.812	22.5999	22.4855	0.51	219.091	230.142	-5.04
4	172.812	22.8995	22.7721	0.56	247.494	260.914	-5.42
4	172.812	23.2035	23.0657	0.59	279.157	294.940	-5.65
4	172.812	23.5106	23.3535	0.65	313.431	332.346	-6.03
4	179.526	17.8514	17.7333	0.29	38.288	39.085	-2.08
4	179.526	18.1841	18.1335	0.26	43.914	44.601	-2.02
4	179.526	18.5168	18.4577	0.32	50.375	51.689	-2.61
4	179.526	18.8423	18.7921	0.27	58.367	59.689	-2.26
4	179.526	19.1674	19.1120	0.29	67.352	69.048	-2.52
4	179.526	19.4852	19.4275	0.30	77.613	79.651	-2.63
4	179.526	19.8016	19.7352	0.33	89.123	91.759	-2.96
4	179.526	20.1110	20.0434	0.33	102.227	105.225	-2.93
4	179.526	20.4182	20.3451	0.36	116.557	120.303	-3.21
4	179.526	20.7228	20.6332	0.41	132.223	137.067	-3.66
4	179.526	21.0225	20.9317	0.44	149.605	155.437	-3.90
4	179.526	21.3201	21.2130	0.47	168.544	175.639	-4.21
4	179.526	21.6179	21.5079	0.51	189.445	197.925	-4.48
4	179.526	21.9164	21.7932	0.54	212.479	222.472	-4.70
4	179.526	22.2163	22.0872	0.58	237.559	249.486	-5.02
4	179.526	22.5175	22.3779	0.62	265.055	279.105	-5.30
4	179.526	22.8227	22.6718	0.67	295.185	311.815	-5.63
4	188.221	16.3228	16.2771	0.28	53.258	53.698	-0.83
4	188.221	16.6622	16.6343	0.17	57.034	57.363	-0.58
4	188.221	17.0016	16.9728	0.17	61.386	61.794	-0.67
4	188.221	17.3388	17.3135	0.15	66.032	67.060	-0.64
4	188.221	17.6728	17.6437	0.14	72.749	73.229	-0.66
4	188.221	18.0034	17.9718	0.18	79.651	80.383	-0.92
4	188.221	18.3308	18.2951	0.19	87.679	88.610	-1.06
4	188.221	18.3604	18.3245	0.20	88.439	89.414	-1.10
4	188.221	18.6839	18.6356	0.25	97.425	98.895	-1.51
4	188.221	19.0009	18.9571	0.23	107.955	109.504	-1.43
4	188.221	19.3151	19.2673	0.25	119.512	121.421	-1.60
4	188.221	19.6296	19.5706	0.40	131.343	134.879	-2.69
4	188.221	19.9390	19.8457	0.47	145.061	149.706	-3.20
4	188.221	20.2511	20.1621	0.44	161.461	166.405	-3.06
4	188.221	20.5427	20.4582	0.41	178.513	183.700	-2.91
4	188.221	20.8468	20.7525	0.45	197.208	203.580	-3.25
4	188.221	21.1497	21.0474	0.48	217.789	225.383	-3.49
4	188.221	21.4551	21.3413	0.53	240.259	249.508	-3.85
4	188.221	21.7581	21.6373	0.55	264.984	275.693	-4.04
4	188.221	22.0546	21.9315	0.56	291.744	303.615	-4.07

NP = 163, DNRMSPT = 0.366, PMEANPCT = 6.545

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,FCT	P,BAR	CALCD	P,PCT
6	273.150	0.7500	0.7511	-0.01	16.376	16.374	0.01
6	298.142	0.7500	0.7500	-0.00	18.020	18.019	0.00
6	303.143	0.7500	0.7500	0.00	18.347	18.347	0.00
6	323.140	0.7500	0.7439	0.02	19.656	19.659	-0.02
6	348.143	0.7500	0.7439	0.01	21.292	21.295	-0.01
6	373.150	0.7500	0.7439	0.01	22.925	22.928	-0.01
6	398.160	0.7500	0.7500	0.00	24.557	24.558	-0.00
6	273.150	1.0000	1.0003	-0.03	21.558	21.552	0.03
6	298.142	1.0000	1.0001	-0.01	23.786	23.783	0.01
6	303.143	1.0000	1.0002	-0.02	24.232	24.228	0.02
6	323.140	1.0000	1.0000	0.00	26.006	26.006	-0.00
6	348.143	1.0000	1.0000	0.00	28.221	28.222	-0.00
6	373.150	1.0000	1.0000	0.00	30.431	30.432	-0.00
6	398.160	1.0000	1.0000	-0.00	32.637	32.638	0.00
6	273.150	1.5000	1.5010	-0.06	31.539	31.520	0.06
6	298.142	1.5000	1.5006	-0.04	34.993	34.981	0.03
6	303.143	1.5000	1.5006	-0.04	35.605	35.607	0.04
6	323.140	1.5000	1.5001	-0.01	38.427	38.424	0.01
6	348.143	1.5000	1.5001	-0.00	41.852	41.851	0.00
6	373.150	1.5000	1.5001	-0.01	45.267	45.264	0.01
6	398.160	1.5000	1.5003	-0.02	48.676	48.685	-0.02
6	273.150	2.0000	2.0017	-0.09	41.053	41.021	0.08
6	298.142	2.0000	2.0008	-0.04	45.804	45.787	0.04
6	303.143	2.0000	2.0008	-0.04	46.733	46.738	-0.04
6	323.140	2.0000	2.0004	-0.02	50.530	50.521	0.02
6	348.143	2.0000	1.9998	0.01	55.222	55.228	-0.01
6	373.150	2.0000	2.0003	-0.02	59.920	59.911	0.01
6	398.160	2.0000	2.0003	-0.01	64.582	64.573	0.01
6	273.150	2.5000	2.5018	-0.07	50.139	50.108	0.06
6	298.142	2.5000	2.5005	-0.02	56.263	56.252	0.02
6	303.143	2.5000	2.5005	-0.02	57.465	57.476	-0.02
6	323.140	2.5000	2.4997	0.01	62.343	62.349	-0.01
6	348.143	2.5000	2.4994	0.02	68.390	68.406	-0.02
6	373.150	2.5000	2.4999	0.00	74.424	74.427	-0.00
6	398.160	2.5000	2.4999	0.01	80.411	80.415	-0.01
6	273.150	3.0000	3.0010	-0.03	58.842	58.825	0.03
6	298.142	3.0000	2.9997	0.01	66.415	66.421	-0.01
6	303.143	3.0000	3.0004	-0.01	67.940	67.932	0.01
6	323.140	3.0000	2.9999	0.04	73.926	73.952	-0.04
6	348.143	3.0000	2.9996	0.05	81.391	81.429	-0.05
6	373.150	3.0000	2.9992	0.03	88.835	88.856	-0.02
6	398.160	3.0000	2.9997	0.01	96.229	96.239	-0.01
6	273.150	3.5000	3.5007	-0.02	67.222	67.210	0.02
6	298.142	3.5000	3.4998	0.03	76.307	76.331	-0.03
6	303.143	3.5000	3.5000	-0.00	78.146	78.146	0.00
6	323.140	3.5000	3.4990	0.06	85.324	85.370	-0.05
6	348.143	3.5000	3.4977	0.07	94.279	94.338	-0.06
6	373.150	3.5000	3.4996	0.04	103.203	103.243	-0.04
6	398.160	3.5000	3.4995	0.01	112.073	112.088	-0.01
6	273.150	4.0000	4.0003	-0.01	75.307	75.303	0.01
6	298.142	4.0000	3.9994	0.04	85.992	86.023	-0.04
6	303.143	4.0000	3.9993	0.02	88.142	88.155	-0.01

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
6	323.140	4.0000	3.9974	0.06	96.585	96.542	-0.06
6	348.143	4.0000	3.9958	0.08	107.094	107.176	-0.08
6	373.150	4.0000	3.9931	0.05	117.577	117.630	-0.05
6	398.160	4.0000	3.9934	0.01	127.993	128.011	-0.01
6	273.150	4.5000	+4.5016	-0.01	83.156	83.147	0.01
6	298.142	4.5000	+4.4935	0.03	95.511	95.539	-0.03
6	303.143	4.5000	+4.4939	0.00	98.002	98.004	-0.00
6	323.140	4.5000	+4.4934	0.04	107.779	107.815	-0.03
6	348.143	4.5000	+4.4973	0.06	119.920	119.990	-0.06
6	373.150	4.5000	+4.4930	0.04	132.013	132.070	-0.04
6	398.160	4.5000	+4.5037	-0.02	144.083	144.060	0.02
6	273.150	5.0000	5.0010	-0.02	90.802	90.786	0.02
6	298.142	5.0000	+4.9931	0.02	104.911	104.926	-0.02
6	303.143	5.0000	5.0012	-0.00	107.745	107.742	0.00
6	323.140	5.0000	+4.9938	0.02	118.912	118.940	-0.02
6	348.143	5.0000	+4.9930	0.04	132.781	132.834	-0.04
6	373.150	5.0000	+4.9938	0.02	146.583	146.618	-0.02
6	398.160	5.0000	5.0015	-0.03	160.346	160.296	0.03
6	273.150	5.5000	5.5029	-0.05	98.315	98.272	0.04
6	298.142	5.5000	5.5010	-0.02	114.261	114.243	0.02
6	303.143	5.5000	5.5015	-0.03	117.449	117.421	0.02
6	323.140	5.5000	5.4982	0.03	130.030	130.071	-0.03
6	348.143	5.5000	5.4932	0.01	145.748	145.767	-0.01
6	373.150	5.5000	5.4934	0.01	161.321	161.338	-0.01
6	398.160	5.5000	5.5031	-0.06	176.887	176.785	0.06
6	273.150	6.0000	5.0017	-0.03	105.680	105.655	0.02
6	298.142	6.0000	5.0025	-0.04	123.585	123.538	0.04
6	303.143	6.0000	6.0032	-0.05	127.160	127.097	0.05
6	323.140	6.0000	5.9937	0.01	141.251	141.268	-0.01
6	348.143	6.0000	5.0016	-0.03	158.896	158.854	0.03
6	373.150	6.0000	6.0033	-0.01	176.308	176.298	0.01
6	398.160	6.0000	5.0030	-0.05	193.701	193.600	0.05
6	273.150	6.5000	5.5049	-0.08	113.057	112.986	0.06
6	298.142	6.5000	5.5038	-0.06	132.941	132.870	0.05
6	303.143	6.5000	5.5048	-0.07	136.921	136.828	0.07
6	323.140	6.5000	5.5043	-0.07	152.692	152.593	0.06
6	348.143	6.5000	5.5013	-0.02	172.135	172.160	0.02
6	373.150	6.5000	5.5035	-0.01	191.585	191.570	0.01
6	398.160	6.5000	5.5057	-0.09	211.015	210.818	0.09
6	273.150	7.0000	7.0121	-0.17	120.494	120.316	0.15
6	298.142	7.0000	7.0052	-0.09	142.411	142.294	0.08
6	303.143	7.0000	7.0059	-0.10	146.809	146.671	0.09
6	323.140	7.0000	7.0044	-0.06	164.208	164.107	0.06
6	348.143	7.0000	7.0041	-0.06	185.865	185.753	0.06
6	373.150	7.0000	7.0039	-0.06	207.347	207.225	0.06
6	398.160	7.0000	7.0053	-0.08	228.706	228.516	0.08
6	273.150	7.5000	7.5137	-0.14	127.854	127.695	0.12
6	298.142	7.5000	7.5039	-0.12	152.040	151.868	0.11
6	303.143	7.5000	7.5049	-0.06	156.763	156.685	0.06
6	323.140	7.5000	7.5038	-0.05	175.966	175.875	0.05
6	348.143	7.5000	7.5037	-0.05	199.807	199.703	0.05
6	373.150	7.5000	7.5030	-0.04	223.440	223.342	0.04
6	398.160	7.5000	7.5074	-0.10	247.053	246.778	0.11

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
6	273.150	8.0000	3.0151	-0.19	135.410	135.182	0.17
6	298.142	8.0000	3.0118	-0.14	161.873	161.658	0.13
6	303.143	8.0000	3.0095	-0.12	167.135	166.936	0.12
6	323.140	8.0000	3.0071	-0.09	188.142	187.968	0.09
6	348.143	8.0000	3.0044	-0.05	214.218	214.091	0.06
6	373.150	8.0000	3.0022	-0.03	240.078	240.005	0.03
6	398.160	8.0000	3.0005	-0.11	266.023	265.694	0.12
6	273.150	8.5000	3.5156	-0.18	143.090	142.847	0.17
6	298.142	8.5000	3.5114	-0.13	171.979	171.745	0.14
6	303.143	8.5000	3.5106	-0.12	177.736	177.508	0.13
6	323.140	8.5000	3.5076	-0.09	200.673	200.478	0.10
6	348.143	8.5000	3.5059	-0.07	229.193	229.013	0.08
6	373.150	8.5000	3.5030	-0.04	257.427	257.320	0.04
6	398.160	8.5000	3.5005	-0.11	285.758	285.376	0.13
6	273.150	9.0000	3.0130	-0.21	151.095	150.787	0.20
6	298.142	9.0000	3.0111	-0.12	182.470	182.232	0.13
6	303.143	9.0000	3.0101	-0.11	188.733	188.506	0.12
6	323.140	9.0000	3.0091	-0.10	213.759	213.516	0.11
6	348.143	9.0000	3.0056	-0.06	244.766	244.589	0.07
6	373.150	9.0000	3.0006	-0.01	275.434	275.413	0.01
6	398.160	9.0000	3.0059	-0.07	306.209	305.959	0.08
6	273.150	9.5000	3.5127	-0.13	159.367	159.092	0.14
6	298.142	9.5000	3.5039	-0.09	193.423	193.223	0.10
6	303.143	9.5000	3.5034	-0.04	200.116	200.035	0.04
6	323.140	9.5000	3.5062	-0.06	227.366	227.193	0.08
6	348.143	9.5000	3.5025	-0.03	261.024	260.939	0.03
6	373.150	9.5000	3.5017	-0.02	294.478	294.413	0.02
6	398.160	9.5000	3.5005	-0.07	327.865	327.577	0.09
6	273.150	10.0000	10.0086	-0.09	167.979	167.825	0.09
6	298.142	10.0000	10.0015	-0.01	204.825	204.790	0.02
6	303.143	10.0000	3.9972	0.03	212.100	212.169	-0.03
6	323.140	10.0000	3.9930	0.02	241.534	241.593	-0.02
6	348.143	10.0000	3.9970	0.03	278.048	278.155	-0.04
6	373.150	10.0000	3.9959	0.04	314.250	314.417	-0.05
6	398.160	10.0000	10.0034	-0.03	350.494	350.336	0.05
6	273.150	10.5000	10.4931	0.02	177.002	177.037	-0.02
6	298.142	10.5000	10.4978	0.02	216.938	216.992	-0.03
6	303.143	10.5000	10.4937	0.06	224.805	224.970	-0.07
6	323.140	10.5000	10.4932	0.06	256.572	256.783	-0.08
6	348.143	10.5000	10.4920	0.08	295.014	296.313	-0.10
6	373.150	10.5000	10.4905	0.09	335.101	335.512	-0.12
6	398.160	10.5000	10.4935	0.01	374.301	374.328	-0.01
6	273.150	11.0000	11.0011	-0.00	186.780	186.779	0.00
6	298.142	11.0000	10.9922	0.07	229.688	229.893	-0.09
6	303.143	11.0000	10.9924	0.07	238.292	238.503	-0.09
6	323.140	11.0000	10.9910	0.08	272.539	272.836	-0.11
6	348.143	11.0000	10.9882	0.11	315.031	315.494	-0.15
6	373.150	11.0000	10.9834	0.10	357.297	357.785	-0.14
6	398.160	11.0000	10.9976	0.02	399.523	399.646	-0.03
6	273.150	11.5000	11.4957	0.03	197.051	197.122	-0.04
6	298.142	11.5000	11.4936	0.04	243.451	243.575	-0.05
6	303.143	11.5000	11.4934	0.10	252.507	252.851	-0.14
6	323.140	11.5000	11.4914	0.07	289.542	289.644	-0.10
6	348.143	11.5000	11.4834	0.14	335.104	335.798	-0.21
6	373.150	11.5000	11.4902	0.09	380.866	381.343	-0.13
6	273.150	12.0000	12.0014	-0.01	208.211	208.179	0.02
6	298.142	12.0000	11.9931	0.06	257.950	258.160	-0.08
6	303.143	12.0000	11.9918	0.07	267.883	268.141	-0.10
6	323.140	12.0000	11.9837	0.09	307.555	307.940	-0.13
6	348.143	12.0000	11.9839	0.13	356.651	357.369	-0.20
6	373.150	12.0000	11.9921	0.07	405.932	406.340	-0.10
6	273.150	12.5000	12.5072	-0.06	220.275	220.097	0.08
6	298.142	12.5000	12.4933	0.01	273.788	273.810	-0.01
6	303.143	12.5000	12.4917	0.07	284.252	284.536	-0.10
6	323.140	12.5000	12.4920	0.06	326.974	327.296	-0.10
6	348.143	12.5000	12.4917	0.07	379.993	380.387	-0.10

NP = 171, DNRMSPT = 0.065, P4EANPCT = 0.054

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
8	203.084	0.0604	0.0604	-0.04	1.013	1.013	0.04
8	223.249	0.0549	0.0548	0.06	1.013	1.014	-0.06
8	248.175	0.0493	0.0493	0.02	1.013	1.013	-0.02
8	273.150	0.0447	0.0447	-0.01	1.013	1.013	0.01
8	298.142	0.0409	0.0409	-0.01	1.013	1.013	0.01
8	323.140	0.0378	0.0378	-0.02	1.013	1.013	0.02
8	373.150	0.0327	0.0327	-0.02	1.013	1.013	0.02
8	423.170	0.0288	0.0288	-0.01	1.013	1.013	0.01
8	473.193	0.0258	0.0258	-0.00	1.013	1.013	0.00
8	203.084	1.3818	1.3870	-0.38	20.265	20.200	0.32
8	223.249	1.2084	1.2032	-0.07	20.265	20.252	0.06
8	298.142	0.8479	0.8458	0.13	20.265	20.290	-0.12
8	203.084	2.2701	2.2836	-0.86	30.397	30.201	0.65
8	223.249	1.9191	1.9255	-0.38	30.397	30.300	0.32
8	248.175	1.6396	1.6411	-0.09	30.397	30.372	0.08
8	273.150	1.4422	1.4425	-0.02	30.397	30.392	0.02
8	323.140	1.1757	1.1752	0.04	30.397	30.409	-0.04
8	373.150	1.0004	0.9989	0.16	30.397	30.444	-0.15
8	423.170	0.8729	0.8717	0.14	30.397	30.441	-0.14
8	473.193	0.7750	0.7747	0.04	30.397	30.409	-0.04
8	203.084	3.4113	3.4516	-1.18	40.530	40.227	0.75
8	223.249	2.7324	2.7470	-0.53	40.530	40.362	0.41
8	248.175	2.2722	2.2757	-0.20	40.530	40.460	0.17
8	273.150	1.9734	1.9736	-0.01	40.530	40.526	0.01
8	298.142	1.7541	1.7547	-0.03	40.530	40.519	0.03
8	323.140	1.5853	1.5852	-0.05	40.530	40.509	0.05
8	203.084	5.0533	5.1544	-2.00	50.662	50.187	0.94
8	223.249	3.6845	3.7050	-0.56	50.662	50.462	0.40
8	273.150	2.5315	2.5312	0.01	50.662	50.668	-0.01
8	373.150	1.6853	1.6837	0.10	50.662	50.712	-0.10
8	423.170	1.4597	1.4535	0.01	50.662	50.668	-0.01
8	473.193	1.2919	1.2923	-0.04	50.662	50.645	0.04
8	203.084	7.9718	8.3902	-5.25	60.795	59.864	1.53
8	223.249	4.8339	4.9515	-0.36	60.795	60.654	0.23
8	248.175	3.7047	3.7135	-0.24	60.795	60.681	0.19
8	273.150	3.1161	3.1158	0.01	60.795	60.801	-0.01
8	298.142	2.7184	2.7217	-0.12	60.795	60.728	0.11
8	323.140	2.4350	2.4337	0.05	60.795	60.824	-0.05
8	423.170	1.7532	1.7546	-0.08	60.795	60.748	0.08
8	473.193	1.5505	1.5509	-0.02	60.795	60.780	0.02
8	203.084	9.9826	10.6716	-6.90	65.861	64.246	2.45
8	203.084	11.8896	12.4345	-4.58	70.927	69.115	2.55
8	223.249	6.1880	6.2332	-0.83	70.927	70.585	0.46
8	203.084	13.9975	14.3044	-2.13	81.060	78.810	2.78
8	223.249	7.7710	7.8712	-1.29	81.060	80.470	0.73
8	248.175	5.3793	5.4037	-0.45	81.060	80.767	0.34
8	273.150	4.3636	4.3656	-0.04	81.060	81.030	0.04
8	298.142	3.7389	3.7427	-0.10	81.060	80.987	0.09
8	323.140	3.3109	3.3104	0.01	81.060	81.071	-0.01
8	223.249	9.4350	9.5707	-1.44	91.192	90.345	0.93
8	203.084	15.9266	15.0629	-0.86	101.325	99.184	2.11
8	223.249	10.9398	11.0632	-1.13	101.325	100.422	0.89

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
8	248.175	7.2518	7.3035	-0.71	101.325	100.788	0.53
8	273.150	5.6949	5.7051	-0.20	101.325	101.159	0.16
8	298.142	4.7990	4.8075	-0.18	101.325	101.166	0.16
8	323.140	4.2048	4.2031	-0.10	101.325	101.227	0.10
8	203.084	16.9028	17.0852	-1.08	121.590	117.368	3.47
8	223.249	13.1053	13.2862	-1.38	121.590	119.526	1.70
8	248.175	9.1316	9.2105	-0.86	121.590	120.705	0.73
8	273.150	7.0576	7.1857	-0.41	121.590	121.163	0.35
8	298.142	5.8806	5.8953	-0.25	121.590	121.317	0.22
8	323.140	5.1121	5.1132	-0.14	121.590	121.431	0.13
8	203.084	17.6717	17.3222	-0.85	141.855	137.264	3.24
8	223.249	14.5471	14.7105	-1.05	141.855	139.237	1.85
8	248.175	10.7931	11.3555	-0.67	141.855	140.890	0.68
8	273.150	8.3962	8.4351	-0.48	141.855	141.237	0.44
8	298.142	6.9544	6.9769	-0.32	141.855	141.429	0.30
8	323.140	6.0156	6.0201	-0.17	141.855	141.620	0.17
8	203.084	18.2772	18.4052	-0.70	162.120	157.312	2.97
8	223.249	15.5521	15.6979	-0.94	162.120	158.765	2.07
8	248.175	12.1465	12.2425	-0.79	162.120	160.563	0.96
8	273.150	9.6370	9.6753	-0.41	162.120	161.441	0.42
8	298.142	7.9959	8.0233	-0.34	162.120	161.576	0.34
8	323.140	6.9022	6.9144	-0.18	162.120	161.837	0.17
8	203.084	18.7732	18.8313	-0.63	182.385	177.157	2.87
8	223.249	16.3484	16.4055	-0.72	182.385	178.985	1.86
8	248.175	13.2422	13.3354	-0.65	182.385	180.111	1.25
8	273.150	10.7591	10.7790	-0.18	182.385	182.015	0.20
8	298.142	8.9743	9.0071	-0.37	182.385	181.682	0.39
8	323.140	7.7605	7.7711	-0.14	182.385	182.129	0.14
8	373.150	6.1946	6.2006	-0.10	182.385	182.202	0.10
8	203.084	19.2104	19.3104	-0.52	202.650	197.568	2.51
8	223.249	16.9755	17.0903	-0.68	202.650	198.642	1.98
8	248.175	14.1547	14.2634	-0.72	202.650	200.152	1.23
8	273.150	11.7211	11.7544	-0.28	202.650	201.915	0.36
8	298.142	9.8855	9.9035	-0.24	202.650	202.087	0.28
8	323.140	8.5699	8.5849	-0.17	202.650	202.266	0.19
8	373.150	6.8403	6.8533	-0.22	202.650	202.176	0.23
8	423.170	5.7691	5.7841	-0.26	202.650	202.039	0.28
8	473.193	5.0303	5.0454	-0.18	202.650	202.259	0.19
8	203.084	20.0835	20.1559	-0.42	253.313	247.781	2.18
8	223.249	18.2033	18.2847	-0.45	253.313	249.288	1.59
8	248.175	15.6229	15.7211	-0.62	253.313	249.731	1.41
8	273.150	13.6614	13.7025	-0.30	253.313	252.050	0.50
8	298.142	11.8075	11.8376	-0.25	253.313	252.426	0.35
8	323.140	10.3754	10.3832	-0.12	253.313	252.918	0.16
8	373.150	8.3661	8.3851	-0.24	253.313	252.613	0.28
8	473.193	6.1747	6.1908	-0.26	253.313	252.574	0.29
8	203.084	20.7751	20.8501	-0.36	303.975	297.925	1.99
8	223.249	19.0983	19.1771	-0.41	303.975	298.989	1.64
8	248.175	17.0283	17.1046	-0.45	303.975	300.250	1.23
8	273.150	15.0966	15.1254	-0.18	303.975	302.637	0.37
8	298.142	13.3339	13.3632	-0.24	303.975	302.773	0.40
8	323.140	11.8878	11.8932	-0.05	303.975	303.776	0.07
8	373.150	9.7327	9.7423	-0.10	303.975	303.594	0.13

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALJD	D,PCT	P,BAR	CALCD	P,PCT
8	423.170	8.2645	3.2940	-0.36	303.975	302.674	0.43
8	473.193	7.2369	7.2615	-0.31	303.975	302.865	0.37
8	203.084	21.8555	21.9229	-0.31	405.300	398.076	1.78
8	223.249	20.4443	21.5031	-0.29	405.300	400.047	1.30
8	248.175	18.7101	13.7744	-0.34	405.300	400.609	1.16
8	273.150	17.0890	17.1149	-0.15	405.300	403.685	0.40
8	298.142	15.5568	15.5774	-0.13	405.300	404.149	0.28
8	323.140	14.1884	14.2021	-0.10	405.300	404.586	0.18
8	373.150	11.9826	11.9738	0.02	405.300	405.442	-0.04
8	423.170	10.3595	10.3644	-0.05	405.300	405.033	0.07
8	473.193	9.1334	9.1352	-0.36	405.300	403.406	0.47
8	203.084	22.6624	22.7051	-0.46	506.625	493.032	2.68
8	223.249	21.4329	21.4330	-0.31	506.625	499.136	1.48
8	248.175	19.9278	19.9710	-0.22	506.625	502.467	0.02
8	273.150	18.5015	18.5052	-0.03	506.625	506.229	0.08
8	298.142	17.1165	17.1324	-0.09	506.625	505.421	0.08
8	323.140	15.6521	15.6717	-0.12	506.625	505.255	0.27
8	373.150	13.7378	13.7233	0.07	506.625	507.246	-0.12
8	423.170	12.0596	12.0610	-0.01	506.625	506.537	0.02
8	473.193	10.7489	10.7735	-0.23	506.625	504.941	0.33
8	203.084	23.3596	23.4539	-0.47	607.950	590.986	2.79
8	223.249	22.2294	22.3031	-0.35	607.950	597.281	1.75
8	248.175	20.8623	20.9144	-0.25	607.950	601.807	1.01
8	273.150	19.5734	19.5810	-0.04	607.950	607.149	0.13
8	298.142	18.3049	18.3248	-0.11	607.950	606.061	0.31
8	323.140	17.1425	17.1534	-0.09	607.950	606.545	0.23
8	373.150	15.1352	15.1212	0.09	607.950	609.079	-0.19
8	423.170	13.4603	13.4632	-0.07	607.950	607.249	0.12
8	473.193	12.1247	12.1452	-0.17	607.950	606.313	0.27
8	203.084	23.9594	24.0732	-0.50	709.275	688.301	2.96
8	223.249	22.9159	22.9958	-0.35	709.275	696.725	1.77
8	248.175	21.6406	21.7130	-0.27	709.275	701.031	1.16
8	203.084	24.4532	24.6135	-0.68	810.600	778.233	3.99
8	223.249	23.4668	23.5978	-0.56	810.600	787.505	2.85
8	248.175	22.2969	22.3776	-0.36	810.600	797.808	1.58
8	273.150	21.1777	21.2125	-0.10	810.600	805.568	0.62
8	298.142	20.0986	20.1116	-0.06	810.600	808.873	0.21
8	323.140	19.0499	19.0739	-0.16	810.600	806.862	0.46
8	373.150	17.2472	17.2324	0.09	810.600	812.271	-0.21
8	423.170	15.6727	15.6837	0.04	810.600	811.239	-0.08
8	473.193	14.3403	14.3541	-0.10	810.600	809.144	0.18
8	203.084	24.9163	25.1070	-0.77	911.925	871.132	4.47
8	223.249	23.9839	24.1335	-0.63	911.925	882.275	3.25
8	248.175	22.8601	22.9732	-0.51	911.925	891.365	2.25
8	203.084	25.3296	25.5529	-0.88	1013.250	961.450	5.11
8	223.249	24.4556	24.6232	-0.69	1013.250	977.377	3.54
8	248.175	23.4024	23.5143	-0.48	1013.250	991.336	2.16
8	273.150	22.3610	22.4553	-0.42	1013.250	996.203	1.08
8	298.142	21.4062	21.4530	-0.22	1013.250	1005.343	0.78
8	323.140	20.4724	20.5113	-0.19	1013.250	1007.204	0.60
8	373.150	18.8247	18.8049	0.11	1013.250	1016.155	-0.29
8	423.170	17.3361	17.3236	0.04	1013.250	1014.142	-0.09
8	473.193	16.0518	16.0626	-0.07	1013.250	1011.809	0.14

NP = 158, DNRMSPT = 0.927, P4EANPCT = 0.811

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
10	111.230	27.9096	27.7368	0.62	287.000	330.430	-15.13
10	111.230	28.3046	28.1820	0.43	402.000	435.402	-8.31
10	111.230	28.7274	28.6118	0.44	519.000	555.859	-7.10
10	111.230	29.3600	29.2876	0.25	726.000	748.629	-3.12
10	121.190	26.7237	25.7059	0.07	218.000	221.629	-1.66
10	121.190	27.2628	27.2437	0.07	335.000	339.443	-1.33
10	121.190	28.0779	28.7714	-0.33	746.000	717.892	3.77
10	121.190	29.2141	29.3133	-0.63	942.000	883.158	6.25
10	121.190	29.7000	31.0291	-1.10	1144.000	1038.585	9.21
10	131.790	27.1518	27.1972	0.20	465.000	477.929	-2.78
10	131.790	27.7008	27.6553	0.12	607.000	615.142	-1.51
10	131.790	28.1770	28.1778	-0.00	748.000	747.769	0.03
10	131.790	28.6041	28.6018	-0.20	892.000	874.345	1.98
10	131.790	29.0360	29.1574	-0.42	1048.000	1009.132	3.71
10	143.820	26.4131	26.4038	0.01	483.000	483.708	-0.15
10	143.820	27.2926	27.3457	-0.19	705.000	691.261	1.95
10	143.820	28.1373	28.2731	-0.50	968.000	925.546	4.39
10	156.960	25.5297	25.5325	-0.40	495.000	475.425	3.95
10	156.960	26.1575	26.2240	-0.25	617.000	602.479	2.35
10	156.960	26.7451	26.3714	-0.47	769.000	737.990	4.03
10	156.960	27.3746	27.5527	-0.65	951.000	901.418	5.21
10	167.010	24.4618	24.4037	-0.03	415.000	413.773	0.30
10	167.610	25.2653	25.3036	-0.17	560.000	551.797	1.46
10	167.610	26.1370	26.2171	-0.31	751.000	732.646	2.44
10	167.610	26.8384	26.3525	-0.46	936.000	903.389	3.48
10	179.290	24.1604	24.1537	0.00	488.000	488.111	-0.02
10	179.290	25.5493	25.5153	-0.26	758.000	743.645	1.89
10	179.290	26.5111	26.6420	-0.49	1003.000	969.062	3.38
10	192.870	22.0604	21.9938	0.30	334.000	340.782	-2.03
10	192.870	23.5849	23.5055	0.08	529.000	531.754	-0.52
10	192.870	24.6427	24.6019	-0.08	714.000	710.368	0.51
10	192.870	25.7938	25.8934	-0.36	979.000	956.566	2.29
10	212.000	21.2444	21.2539	-0.05	401.000	399.974	0.26
10	212.000	22.7739	22.3011	-0.12	580.000	582.144	0.66
10	212.000	23.7417	23.3113	-0.29	746.000	734.020	1.61
10	212.000	24.7463	24.6055	-0.43	950.000	927.097	2.41
10	225.070	20.0101	20.6239	-0.07	428.000	426.697	0.30
10	225.070	22.2519	22.3239	-0.35	625.000	614.342	1.70
10	225.070	23.4797	23.5764	-0.41	823.000	805.795	2.09
10	225.070	24.7219	24.8723	-0.61	1087.000	1053.005	3.13
10	237.570	17.9437	17.9453	-0.01	302.000	301.912	0.03
10	237.570	21.4638	21.4651	-0.10	606.000	603.343	0.44
10	237.570	23.5133	23.5427	-0.27	946.000	933.846	1.28
10	249.430	18.8076	18.7554	0.22	411.000	414.071	-0.75
10	249.430	20.6016	20.6115	-0.05	581.000	579.893	0.19
10	249.430	21.8579	21.8813	-0.10	744.000	740.749	0.44
10	249.430	23.0256	23.0853	-0.26	942.000	931.074	1.16
10	261.550	17.9147	17.9937	0.09	407.000	408.084	-0.27
10	261.550	19.4666	19.4627	0.02	533.000	533.376	-0.07
10	261.550	20.7512	20.8011	-0.24	680.000	673.754	0.92
10	261.550	21.7628	21.8457	-0.39	826.000	813.157	1.55
10	261.550	22.7583	22.8751	-0.51	1001.000	979.421	2.10
10	278.710	15.7754	15.7037	0.42	348.000	351.227	-0.93
10	278.710	18.1752	18.1112	0.36	500.000	505.265	-1.05
10	278.710	19.5100	19.4433	0.35	624.000	631.214	-1.10
10	278.710	20.7211	20.6978	0.11	774.000	777.159	-0.41
10	278.710	22.1288	22.1471	-0.08	999.000	995.763	0.32
10	293.410	16.7963	16.3116	-0.08	465.000	464.086	0.20
10	293.410	18.8466	18.8708	-0.16	640.000	636.835	0.49
10	293.410	20.1776	20.1031	0.05	791.000	792.250	-0.16
10	293.410	21.2089	21.2332	-0.14	947.000	942.168	0.51
10	309.290	14.2227	14.2253	-0.03	369.000	368.829	0.05
10	309.290	16.0694	16.0826	-0.08	516.000	515.020	0.19
10	309.290	18.4570	18.4115	0.31	667.000	672.843	-0.88
10	309.290	19.9263	19.3174	0.05	847.000	848.477	-0.17
10	309.290	21.2721	21.2901	-0.08	1056.000	1054.889	0.29

NP = 66, DNRMSPT = 1.329, P4EANPCT = 2.037

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
4101	176.000	2.9954	3.00+7	-0.31	27.962	27.919	0.15
4102	180.000	2.9936	3.0035	-0.33	29.335	29.283	0.18
4103	184.000	2.9918	3.0020	-0.34	30.683	30.624	0.19
4104	188.000	2.9901	2.9937	-0.32	32.008	31.946	0.19
4105	192.000	2.9883	2.9974	-0.30	33.316	33.253	0.19
4106	196.000	2.9865	2.9951	-0.29	34.610	34.546	0.19
4107	200.000	2.9848	2.9926	-0.26	35.890	35.827	0.17
4108	204.000	2.9831	2.9901	-0.24	37.158	37.098	0.16
4109	208.000	2.9813	2.9877	-0.21	38.417	38.359	0.15
4110	212.000	2.9796	2.9851	-0.19	39.665	39.612	0.13
4111	216.000	2.9779	2.9828	-0.17	40.907	40.857	0.12
4112	220.000	2.9761	2.9806	-0.15	42.142	42.094	0.11
4113	225.000	2.9739	2.9776	-0.12	43.673	43.631	0.10
4114	230.000	2.9717	2.9749	-0.10	45.196	45.159	0.08
4115	240.000	2.9675	2.9638	-0.08	48.219	48.189	0.06
4116	250.000	2.9630	2.9643	-0.04	51.203	51.185	0.04
4117	260.000	2.9585	2.9531	-0.02	54.160	54.152	0.01
4118	270.000	2.9540	2.9538	0.01	57.089	57.092	-0.01
4119	280.000	2.9495	2.9438	0.02	59.996	60.006	-0.02
4120	290.000	2.9450	2.9434	0.05	62.872	62.902	-0.05
4121	300.000	2.9402	2.9332	0.03	65.748	65.768	-0.03
4001	184.000	3.9782	3.9524	0.65	35.156	35.250	-0.27
4002	188.000	3.9756	3.9502	0.39	37.096	37.162	-0.18
4003	192.000	3.9730	3.9627	0.26	38.989	39.039	-0.13
4004	196.000	3.9705	3.9724	-0.05	40.900	40.889	0.03
4005	200.000	3.9683	3.9734	-0.13	42.750	42.719	0.07
4006	204.000	3.9654	3.9700	-0.11	44.556	44.526	0.07
4007	208.000	3.9629	3.9672	-0.11	46.349	46.318	0.07
4008	212.000	3.9604	3.9641	-0.10	48.124	48.095	0.06
4009	216.000	3.9579	3.9611	-0.08	49.885	49.859	0.05
4010	220.000	3.9554	3.9578	-0.06	51.632	51.610	0.04
4011	225.000	3.9522	3.9539	-0.04	53.800	53.784	0.03
4012	230.000	3.9490	3.9437	-0.02	55.949	55.942	0.01
4013	240.000	3.9427	3.9417	0.03	60.204	60.216	-0.02
4014	250.000	3.9363	3.9339	0.06	64.407	64.439	-0.05
4015	260.000	3.9300	3.9265	0.09	68.568	68.617	-0.07
4016	270.000	3.9235	3.9138	0.12	72.682	72.754	-0.10
4017	280.000	3.9170	3.9114	0.14	76.758	76.853	-0.12
4018	290.000	3.9104	3.9044	0.15	80.805	80.915	-0.14
4019	300.000	3.9038	3.8975	0.16	84.819	84.942	-0.15
3901	188.000	4.9304	4.8971	0.68	40.276	40.361	-0.21
3902	192.000	4.9269	4.9018	0.51	42.770	42.851	-0.19
3903	196.000	4.9236	4.9053	0.37	45.221	45.292	-0.16
3904	200.000	4.9202	4.9032	0.24	47.641	47.695	-0.11
3905	204.000	4.9169	4.9105	0.13	50.036	50.068	-0.06
3906	208.000	4.9135	4.9122	0.03	52.409	52.416	-0.01
3907	212.000	4.9102	4.9103	-0.00	54.744	54.743	0.00
3908	216.000	4.9069	4.9071	-0.00	57.052	57.051	0.00
3909	220.000	4.9035	4.9020	0.03	59.330	59.341	-0.02
3910	225.000	4.8994	4.8938	0.01	62.178	62.183	-0.01
3911	230.000	4.8952	4.8943	0.02	64.995	65.003	-0.01
3912	240.000	4.8868	4.8846	0.04	70.563	70.586	-0.03

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
3913	250.000	4.8784	4.8750	0.07	76.060	76.101	-0.05
3914	260.000	4.8699	4.8651	0.10	81.491	81.555	-0.08
3915	270.000	4.8614	4.8534	0.12	86.867	86.954	-0.10
3916	280.000	4.8527	4.8439	0.14	92.190	92.301	-0.12
3917	290.000	4.8440	4.8357	0.15	97.469	97.599	-0.13
3918	300.000	4.8353	4.8274	0.16	102.699	102.850	-0.15
3801	192.000	5.9478	5.9130	0.49	45.371	45.427	-0.12
3802	190.000	5.9435	5.9239	0.30	48.493	48.539	-0.09
3803	200.000	5.9392	5.9273	0.20	51.555	51.594	-0.08
3804	204.000	5.9350	5.9231	0.12	54.580	54.607	-0.05
3805	203.000	5.9307	5.9237	0.03	57.577	57.586	-0.02
3806	212.000	5.9264	5.9235	-0.00	60.538	60.537	0.00
3807	216.000	5.9222	5.9232	-0.02	63.471	63.465	0.01
3808	220.000	5.9179	5.9136	-0.01	66.376	66.371	0.01
3809	225.000	5.9126	5.9137	-0.02	69.986	69.978	0.01
3810	230.000	5.9072	5.9031	-0.02	73.565	73.558	0.01
3811	240.000	5.8965	5.8958	0.01	80.641	80.646	-0.01
3812	250.000	5.8857	5.8835	0.04	87.631	87.656	-0.03
3813	260.000	5.8749	5.8712	0.06	94.542	94.589	-0.05
3814	270.000	5.8640	5.8531	0.08	101.384	101.454	-0.07
3815	280.000	5.8531	5.8438	0.11	108.156	108.255	-0.09
3816	290.000	5.8422	5.8332	0.12	114.873	114.994	-0.11
3817	300.000	5.8312	5.8238	0.13	121.534	121.673	-0.11
3701	192.000	6.9818	6.9278	0.77	46.845	46.900	-0.12
3702	190.000	6.9765	6.9334	0.45	50.661	50.714	-0.10
3703	200.000	6.9712	6.9332	0.26	54.408	54.450	-0.08
3704	204.000	6.9659	6.9371	0.13	58.110	58.137	-0.05
3705	208.000	6.9607	6.9377	0.04	61.774	61.785	-0.02
3706	212.000	6.9555	6.9371	-0.02	65.410	65.403	0.01
3707	216.000	6.9502	6.9339	-0.05	69.013	68.995	0.03
3708	220.000	6.9450	6.9338	-0.07	72.591	72.563	0.04
3709	225.000	6.9384	6.9338	-0.08	77.032	76.996	0.05
3710	230.000	6.9317	6.9337	-0.07	81.437	81.401	0.04
3711	240.000	6.9186	6.9212	-0.04	90.158	90.134	0.03
3712	250.000	6.9053	6.9335	-0.02	98.789	98.776	0.01
3713	260.000	6.8920	6.9319	0.02	107.322	107.336	-0.01
3714	270.000	6.8786	6.9338	0.03	115.791	115.817	-0.02
3715	280.000	6.8653	6.8622	0.04	124.174	124.222	-0.04
3716	290.000	6.8521	6.8432	0.06	132.489	132.556	-0.05
3717	300.000	6.8389	6.8346	0.06	140.737	140.820	-0.06
3601	192.000	7.9789	7.8430	1.68	47.528	47.590	-0.13
3602	196.000	7.9726	7.8151	0.72	52.011	52.075	-0.12
3603	200.000	7.9664	7.9312	0.44	56.416	56.479	-0.11
3604	204.000	7.9601	7.9334	0.27	60.781	60.834	-0.09
3605	208.000	7.9539	7.9266	0.14	65.120	65.156	-0.05
3606	212.000	7.9476	7.9438	0.02	69.442	69.449	-0.01
3607	216.000	7.9413	7.9438	-0.03	73.730	73.719	0.02
3608	220.000	7.9350	7.9432	-0.07	77.995	77.968	0.04
3609	225.000	7.9271	7.9335	-0.08	83.292	83.252	0.05
3610	230.000	7.9192	7.9239	-0.10	88.565	88.510	0.06
3611	240.000	7.9034	7.9101	-0.08	99.012	98.953	0.06
3612	250.000	7.8876	7.8928	-0.07	109.300	109.304	0.05
3613	260.000	7.8718	7.8735	-0.05	119.614	119.567	0.04

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
3614	270.000	7.8561	7.8532	-0.03	129.779	129.748	0.02
3615	280.000	7.8405	7.8412	-0.01	139.858	139.846	0.01
3616	290.000	7.8251	7.8245	0.01	149.853	149.864	-0.01
3617	300.000	7.8100	7.8033	0.02	159.769	159.803	-0.02
3501	192.000	9.0890	9.0165	0.80	47.891	47.906	-0.03
3502	196.000	9.0817	9.0404	0.45	53.082	53.118	-0.07
3503	200.000	9.0743	9.0436	0.31	58.237	58.281	-0.07
3504	204.000	9.0609	9.0445	0.25	63.364	63.416	-0.08
3505	208.000	9.0595	9.0514	0.10	68.502	68.530	-0.04
3506	212.000	9.0520	9.0431	0.03	73.615	73.626	-0.02
3507	216.000	9.0445	9.0454	-0.01	78.711	78.707	0.01
3508	220.000	9.0369	9.0420	-0.06	83.800	83.773	0.03
3509	225.000	9.0275	9.0343	-0.08	90.129	90.085	0.05
3510	230.000	9.0180	9.0265	-0.09	96.439	96.376	0.06
3511	240.000	8.9990	9.0072	-0.09	108.970	108.894	0.07
3512	250.000	8.9801	8.9855	-0.07	121.398	121.325	0.06
3513	260.000	8.9614	8.9656	-0.05	133.727	133.670	0.04
3514	270.000	8.9429	8.9456	-0.03	145.970	145.927	0.03
3515	280.000	8.9249	8.9258	-0.01	158.114	158.098	0.01
3516	290.000	8.9072	8.9067	0.01	170.170	170.180	-0.01
3517	300.000	8.8900	8.8938	0.01	182.149	182.174	-0.01
3401	192.000	10.2380	10.0535	1.74	48.104	48.141	-0.08
3402	196.000	10.2296	10.1056	1.21	54.020	54.133	-0.21
3403	200.000	10.2210	10.1274	0.92	59.983	60.141	-0.26
3404	204.000	10.2123	10.1412	0.70	65.977	66.155	-0.27
3405	208.000	10.2035	10.1497	0.53	71.990	72.170	-0.25
3406	212.000	10.1947	10.1539	0.40	78.012	78.183	-0.22
3407	216.000	10.1858	10.1547	0.31	84.035	84.193	-0.19
3408	220.000	10.1769	10.1539	0.23	90.060	90.196	-0.15
3409	225.000	10.1657	10.1433	0.17	97.568	97.690	-0.12
3410	230.000	10.1545	10.1417	0.13	105.066	105.170	-0.10
3411	240.000	10.1320	10.1230	0.09	119.985	120.079	-0.08
3412	250.000	10.1100	10.1018	0.08	134.809	134.913	-0.08
3413	260.000	10.0882	10.0805	0.08	149.544	149.660	-0.08
3414	270.000	10.0671	10.0533	0.09	164.165	164.317	-0.09
3415	280.000	10.0466	10.0374	0.09	178.700	178.881	-0.10
3416	290.000	10.0270	10.0170	0.10	193.133	193.354	-0.11
3417	300.000	10.0081	9.9976	0.11	207.474	207.729	-0.12
3301	192.000	11.1113	11.0749	0.33	48.322	48.331	-0.02
3302	196.000	11.1019	10.9678	1.03	54.855	54.970	-0.21
3303	200.000	11.0923	10.9393	0.84	61.513	61.686	-0.28
3304	204.000	11.0825	11.0134	0.62	68.249	68.439	-0.28
3305	208.000	11.0725	11.0189	0.48	75.017	75.214	-0.26
3306	212.000	11.0625	11.0130	0.45	81.773	82.002	-0.28
3307	216.000	11.0523	11.0139	0.30	88.609	88.795	-0.21
3308	220.000	11.0422	11.0153	0.24	95.415	95.591	-0.18
3309	225.000	11.0294	11.0076	0.20	103.913	104.082	-0.16
3310	230.000	11.0167	10.9985	0.17	112.402	112.566	-0.15
3311	240.000	10.9914	10.9732	0.12	129.341	129.493	-0.12
3312	250.000	10.9667	10.9539	0.12	146.170	146.349	-0.12
3313	260.000	10.9428	10.9239	0.12	162.909	163.122	-0.13
3314	270.000	10.9198	10.9064	0.12	179.548	179.804	-0.14
3315	280.000	10.8978	10.8830	0.14	196.070	196.388	-0.16

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
3316	290.000	10.8769	10.8612	0.14	212.497	212.875	-0.18
3317	300.000	10.8570	10.8438	0.15	228.828	229.259	-0.19
3201	192.000	12.0697	12.1348	-0.54	48.685	48.652	0.07
3202	196.000	12.0591	12.0128	0.38	56.033	56.098	-0.12
3203	200.000	12.0481	12.0017	0.39	63.574	63.685	-0.17
3204	204.000	12.0370	11.9934	0.31	71.216	71.344	-0.18
3205	208.000	12.0256	11.9954	0.25	78.913	79.047	-0.17
3206	212.000	12.0142	11.9914	0.19	86.654	86.779	-0.14
3207	216.000	12.0026	11.9873	0.13	94.428	94.529	-0.11
3208	220.000	11.9912	11.9737	0.10	102.201	102.289	-0.09
3209	225.000	11.9767	11.9678	0.07	111.912	111.993	-0.07
3210	230.000	11.9624	11.9549	0.06	121.617	121.696	-0.06
3211	240.000	11.9342	11.9277	0.06	140.985	141.072	-0.06
3212	250.000	11.9068	11.8930	0.07	160.255	160.381	-0.08
3213	260.000	11.8808	11.8710	0.08	179.425	179.606	-0.10
3214	270.000	11.8562	11.8444	0.10	198.490	198.744	-0.13
3215	280.000	11.8330	11.8132	0.12	217.442	217.777	-0.15
3216	290.000	11.8112	11.7956	0.13	236.293	236.710	-0.18
3217	300.000	11.7906	11.7739	0.14	255.031	255.528	-0.20
3101	192.000	12.9815	13.0233	-0.37	49.455	49.395	0.12
3102	196.000	12.9695	12.9732	-0.04	57.730	57.776	0.02
3103	200.000	12.9570	12.9575	-0.00	66.328	66.326	0.00
3104	204.000	12.9442	12.9430	-0.04	74.993	74.971	0.03
3105	208.000	12.9313	12.9339	-0.07	83.726	83.675	0.06
3106	212.000	12.9184	12.9236	-0.09	92.499	92.419	0.09
3107	216.000	12.9053	12.9133	-0.11	101.304	101.167	0.12
3108	220.000	12.8923	12.9075	-0.12	110.116	109.971	0.13
3109	225.000	12.8761	12.8932	-0.11	121.115	120.959	0.13
3110	230.000	12.8600	12.8733	-0.10	132.115	131.947	0.13
3111	240.000	12.8286	12.8339	-0.08	154.057	153.895	0.11
3112	250.000	12.7988	12.8053	-0.05	175.900	175.779	0.07
3113	260.000	12.7708	12.7736	-0.02	197.638	197.577	0.03
3114	270.000	12.7448	12.7441	0.01	219.261	219.280	-0.01
3115	280.000	12.7205	12.7152	0.03	240.753	240.875	-0.05
3116	290.000	12.6980	12.6936	0.06	262.130	262.358	-0.09
3117	300.000	12.6767	12.6670	0.08	283.387	283.714	-0.12
3001	192.000	14.2336	14.2136	0.14	52.052	52.119	-0.13
3002	196.000	14.2188	14.2344	-0.11	62.209	62.133	0.12
3003	200.000	14.2038	14.2278	-0.17	72.451	72.296	0.21
3004	204.000	14.1886	14.2175	-0.20	82.785	82.559	0.27
3005	208.000	14.1733	14.2053	-0.23	93.177	92.880	0.32
3006	212.000	14.1580	14.1923	-0.24	103.608	103.240	0.36
3007	216.000	14.1427	14.1769	-0.24	114.040	113.623	0.37
3008	220.000	14.1275	14.1612	-0.24	124.478	124.019	0.37
3009	225.000	14.1088	14.1439	-0.23	137.516	137.022	0.36
3010	230.000	14.0906	14.1235	-0.21	150.534	150.020	0.34
3011	240.000	14.0557	14.0811	-0.18	175.506	175.976	0.30
3012	250.000	14.0233	14.0436	-0.14	202.352	201.861	0.24
3013	260.000	13.9939	14.0036	-0.10	228.052	227.655	0.18
3014	270.000	13.9669	13.9764	-0.07	253.635	253.338	0.12
3015	280.000	13.9421	13.9469	-0.03	279.069	278.901	0.06
3016	290.000	13.9190	13.9131	-0.00	304.333	304.328	0.00
3017	300.000	13.8972	13.8945	0.02	329.483	329.597	-0.03

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
2901	190.000	15.3796	15.3591	0.13	51.866	51.991	-0.24
2902	194.000	15.3621	15.3622	-0.00	63.787	63.786	0.00
2903	198.000	15.3444	15.3537	-0.10	75.861	75.711	0.20
2904	202.000	15.3267	15.3521	-0.17	88.012	87.719	0.33
2905	206.000	15.3088	15.3408	-0.21	100.201	99.775	0.42
2906	210.000	15.2911	15.3255	-0.23	112.378	111.862	0.46
2907	215.000	15.2692	15.3047	-0.23	127.596	126.989	0.48
2908	220.000	15.2478	15.2828	-0.23	142.792	142.120	0.47
2909	230.000	15.2071	15.2411	-0.22	173.125	172.356	0.44
2910	240.000	15.1701	15.1911	-0.18	203.287	202.521	0.38
2911	250.000	15.1369	15.1537	-0.15	233.313	232.595	0.31
2912	260.000	15.1069	15.1245	-0.12	263.178	262.553	0.24
2913	270.000	15.0797	15.0920	-0.08	292.861	292.378	0.16
2914	280.000	15.0546	15.0627	-0.05	322.396	322.046	0.11
2915	290.000	15.0313	15.0342	-0.02	351.677	351.539	0.04
2801	186.000	16.2733	16.2612	0.07	45.617	45.715	-0.22
2802	190.000	16.2543	16.2533	0.01	59.078	59.089	-0.02
2803	194.000	16.2348	16.2429	-0.05	72.680	72.579	0.14
2804	198.000	16.2151	16.2305	-0.09	86.363	86.140	0.26
2805	202.000	16.1953	16.2140	-0.12	100.048	99.739	0.31
2806	206.000	16.1755	16.1970	-0.13	113.751	113.354	0.35
2807	210.000	16.1562	16.1736	-0.14	127.454	126.977	0.37
2808	215.000	16.1328	16.1515	-0.11	144.404	144.003	0.28
2809	220.000	16.1098	16.1340	-0.15	161.607	161.002	0.37
2810	230.000	16.0677	16.0916	-0.14	195.626	194.946	0.35
2811	240.000	16.0302	16.0433	-0.12	229.438	228.785	0.28
2812	250.000	15.9971	16.0128	-0.10	263.114	262.507	0.23
2813	260.000	15.9676	15.9731	-0.07	296.539	296.090	0.15
2814	270.000	15.9408	15.9452	-0.03	329.757	329.503	0.08
2701	182.000	17.2858	17.2732	0.04	41.322	41.416	-0.23
2702	186.000	17.2636	17.2635	0.00	56.948	56.949	-0.00
2703	190.000	17.2416	17.2439	-0.04	72.675	72.549	0.17
2704	194.000	17.2194	17.2232	-0.05	88.346	88.173	0.20
2705	198.000	17.1973	17.2100	-0.07	104.080	103.801	0.27
2706	202.000	17.1754	17.1913	-0.09	119.774	119.412	0.30
2707	206.000	17.1539	17.1713	-0.10	135.462	135.001	0.34
2708	210.000	17.1331	17.1511	-0.10	151.080	150.569	0.34
2709	215.000	17.1184	17.1279	-0.11	170.602	169.994	0.36
2710	220.000	17.0848	17.1044	-0.11	190.033	189.371	0.35
2711	230.000	17.0424	17.0614	-0.11	228.723	228.023	0.31
2712	240.000	17.0056	17.0217	-0.09	267.186	266.524	0.25
2713	250.000	16.9731	16.9853	-0.07	305.442	304.850	0.19
2714	260.000	16.9441	16.9513	-0.04	343.357	342.973	0.11
2601	176.000	18.3840	18.3815	0.01	32.172	32.217	-0.14
2602	180.000	18.3570	18.3553	0.00	50.437	50.453	-0.03
2603	184.000	18.3320	18.3311	0.00	68.691	68.711	-0.03
2604	188.000	18.3070	18.3051	0.00	86.906	86.929	-0.03
2605	192.000	18.2810	18.2821	-0.01	105.089	105.057	0.03
2606	196.000	18.2560	18.2589	-0.02	123.227	123.136	0.07
2607	200.000	18.2320	18.2354	-0.02	141.311	141.163	0.11
2608	205.000	18.2030	18.2099	-0.04	163.860	163.604	0.16
2609	210.000	18.1750	18.1844	-0.05	186.312	185.937	0.20
2610	215.000	18.1500	18.1533	-0.06	208.687	208.243	0.21

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	O,PCT	P,BAR	CALCO	P,PCT
2611	220.000	18.1270	18.1330	-0.06	231.002	230.496	0.22
2612	225.000	18.1060	18.1159	-0.06	253.237	252.704	0.21
2613	230.000	18.0860	18.0970	-0.06	275.393	274.828	0.21
2614	235.000	18.0680	18.0732	-0.06	297.479	296.925	0.19
2615	240.000	18.0520	18.0604	-0.05	319.488	319.006	0.15
2616	245.000	18.0360	18.0433	-0.04	341.402	340.966	0.13
2501	170.000	19.5060	19.4878	0.09	26.367	26.867	-1.90
2502	174.000	19.4750	19.4553	0.10	47.743	48.348	-1.27
2503	178.000	19.4460	19.4240	0.11	69.007	69.748	-1.07
2504	182.000	19.4170	19.3929	0.12	90.117	90.999	-0.98
2505	186.000	19.3880	19.3635	0.13	111.128	112.093	-0.87
2506	190.000	19.3590	19.3352	0.12	132.061	133.021	-0.73
2507	194.000	19.3320	19.3107	0.11	152.913	153.871	-0.63
2508	198.000	19.3070	19.2853	0.11	173.668	174.653	-0.57
2509	202.000	19.2830	19.2635	0.10	194.349	195.331	-0.51
2510	205.000	19.2660	19.2477	0.09	209.838	210.792	-0.45
2511	210.000	19.2400	19.2232	0.09	235.576	236.507	-0.40
2512	215.000	19.2160	19.2004	0.08	261.206	262.122	-0.35
2513	220.000	19.1950	19.1796	0.08	286.762	287.716	-0.33
2514	225.000	19.1750	19.1601	0.08	312.214	313.185	-0.31
2515	230.000	19.1570	19.1414	0.08	337.542	338.603	-0.31
2401	164.000	20.4250	20.4229	0.01	20.288	20.365	-0.38
2402	168.000	20.3890	20.3859	0.01	44.689	44.775	-0.19
2403	172.000	20.3570	20.3511	0.03	68.823	69.083	-0.38
2404	176.000	20.3240	20.3157	0.04	92.700	93.091	-0.42
2405	180.000	20.2920	20.2820	0.05	116.390	116.890	-0.43
2406	184.000	20.2600	20.2511	0.04	139.966	140.436	-0.34
2407	188.000	20.2310	20.2224	0.04	163.416	163.898	-0.29
2408	192.000	20.2060	20.1950	0.05	186.770	187.362	-0.31
2409	196.000	20.1780	20.1723	0.03	210.084	210.432	-0.17
2410	200.000	20.1550	20.1537	0.02	233.321	233.600	-0.12
2411	204.000	20.1340	20.1308	0.02	256.494	256.708	-0.08
2412	208.000	20.1150	20.1125	0.01	279.599	279.772	-0.06
2413	212.000	20.0970	20.0955	0.01	302.629	302.735	-0.04
2414	216.000	20.0800	20.0794	0.00	325.569	325.617	-0.01
2415	220.000	20.0650	20.0643	0.00	348.434	348.492	-0.02
2301	158.000	21.3710	21.3700	0.00	19.836	19.886	-0.25
2302	162.000	21.3320	21.3237	0.01	47.537	47.661	-0.26
2303	166.000	21.2940	21.2832	0.03	74.747	75.077	-0.44
2304	170.000	21.2580	21.2478	0.05	101.595	102.215	-0.61
2305	174.000	21.2230	21.2111	0.06	128.287	129.041	-0.59
2306	178.000	21.1890	21.1775	0.05	154.807	155.574	-0.50
2307	182.000	21.1580	21.1472	0.05	181.216	181.971	-0.42
2308	186.000	21.1290	21.1203	0.04	207.556	208.194	-0.31
2309	190.000	21.1030	21.0951	0.03	233.818	234.344	-0.23
2310	194.000	21.0800	21.0746	0.03	260.026	260.455	-0.17
2311	198.000	21.0590	21.0546	0.02	286.118	286.478	-0.13
2312	202.000	21.0400	21.0365	0.02	312.140	312.433	-0.09
2313	206.000	21.0220	21.0196	0.01	338.043	338.256	-0.06
2201	152.000	22.1250	22.1227	0.01	14.593	14.736	-0.98
2202	156.000	22.0800	22.0775	0.01	45.088	45.250	-0.36
2203	160.000	22.0400	22.0311	0.04	74.923	75.542	-0.83
2204	164.000	22.0010	21.9873	0.06	104.403	105.392	-0.95

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
2205	168.000	21.9620	21.9479	0.06	133.692	134.753	-0.79
2206	172.000	21.9290	21.9119	0.08	162.772	164.117	-0.83
2207	176.000	21.8920	21.8800	0.05	191.756	192.736	-0.51
2208	180.000	21.8620	21.8517	0.05	220.648	221.523	-0.40
2209	184.000	21.8360	21.8273	0.04	249.520	250.292	-0.31
2210	188.000	21.8120	21.8055	0.03	278.308	278.907	-0.22
2211	192.000	21.7910	21.7850	0.02	307.015	307.491	-0.16
2212	196.000	21.7720	21.7678	0.02	335.575	335.984	-0.12
2101	146.000	22.8730	22.8726	0.00	13.127	13.157	-0.23
2001	140.000	23.5700	23.5719	-0.01	12.262	12.091	1.39
2102	150.000	22.8240	22.8247	-0.00	46.703	46.644	0.13
2103	154.000	22.7820	22.7757	0.03	79.462	79.988	-0.66
2104	158.000	22.7390	22.7230	0.04	111.736	112.601	-0.77
2105	162.000	22.6980	22.6873	0.05	143.810	144.773	-0.67
2106	166.000	22.6600	22.6510	0.04	175.712	176.642	-0.53
2107	170.000	22.6260	22.6176	0.04	207.555	208.358	-0.39
2108	174.000	22.5960	22.5835	0.03	239.330	239.981	-0.27
2109	178.000	22.5700	22.5656	0.02	271.112	271.565	-0.17
2110	182.000	22.5460	22.5442	0.01	302.767	302.958	-0.06
2111	186.000	22.5250	22.5248	0.00	334.282	334.300	-0.01
2002	144.000	23.5180	23.5214	-0.01	48.910	48.585	0.66
2003	148.000	23.4720	23.4631	0.01	84.590	84.782	-0.33
2004	152.000	23.4260	23.4135	0.03	119.526	120.182	-0.55
2005	156.000	23.3830	23.3754	0.03	154.350	155.139	-0.51
2006	160.000	23.3430	23.3359	0.03	189.067	189.720	-0.35
2007	164.000	23.3080	23.3040	0.02	223.762	224.208	-0.20
2008	168.000	23.2780	23.2759	0.01	258.440	258.680	-0.09
2009	172.000	23.2520	23.2515	0.00	293.040	293.094	-0.02
2010	176.000	23.2280	23.2315	-0.01	327.578	327.271	0.09
1901	134.000	24.1830	24.1826	0.00	6.861	6.908	-0.69
1902	138.000	24.1250	24.1231	-0.02	46.383	45.935	0.96
1903	142.000	24.0760	24.0736	0.01	84.630	84.901	-0.32
1904	146.000	24.0270	24.0211	0.02	122.240	122.915	-0.55
1905	150.000	23.9810	23.9748	0.03	159.656	160.388	-0.46
1906	154.000	23.9400	23.9351	0.02	197.040	197.638	-0.30
1801	134.000	24.1740	24.1729	0.00	5.841	5.957	-1.99
1802	136.000	24.1410	24.1456	-0.02	25.770	25.168	2.34
1803	138.000	24.1150	24.1138	-0.02	45.258	44.850	0.90
1804	140.000	24.0900	24.0912	-0.00	64.512	64.384	0.20
1805	142.000	24.0660	24.0621	0.02	83.348	83.784	-0.52
1806	144.000	24.0420	24.0348	0.03	102.134	102.947	-0.80
1807	146.000	24.0170	24.0038	0.03	120.944	121.767	-0.68
1808	148.000	23.9940	23.9863	0.03	139.702	140.595	-0.64
1809	150.000	23.9710	23.9639	0.03	158.374	159.209	-0.53
1810	152.000	23.9500	23.9433	0.03	177.053	177.856	-0.45
1811	154.000	23.9310	23.9244	0.03	195.747	196.549	-0.41
1812	156.000	23.9120	23.9068	0.02	214.417	215.059	-0.30
1813	158.000	23.8930	23.8890	0.02	232.888	233.390	-0.22
1814	160.000	23.8770	23.8747	0.01	251.636	251.925	-0.11
1815	162.000	23.8620	23.8611	0.00	270.317	270.426	-0.04
1816	164.000	23.8490	23.8434	0.00	288.962	289.034	-0.02
1817	166.000	23.8360	23.8375	-0.01	307.694	307.499	0.06
1818	168.000	23.8240	23.8273	-0.01	326.391	325.958	0.13

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
1819	170.000	23.8120	23.8172	-0.02	344.986	344.286	0.20
1701	130.000	24.6050	24.6038	-0.02	7.286	6.724	7.71
1702	132.000	24.5720	24.5822	-0.04	28.230	27.024	4.27
1703	134.000	24.5460	24.5538	-0.03	48.781	47.847	1.92
1704	135.000	24.5190	24.5242	-0.02	68.894	68.262	0.92
1705	138.000	24.4940	24.4940	0.00	88.639	88.644	-0.01
1706	140.000	24.4690	24.4553	0.01	108.425	108.761	-0.31
1707	142.000	24.4430	24.4475	0.01	128.176	128.496	-0.25
1708	144.000	24.4190	24.4150	0.01	147.856	148.236	-0.26
1709	146.000	24.3960	24.3933	0.01	167.516	167.866	-0.21
1710	148.000	24.3740	24.3726	0.01	187.222	187.399	-0.09
1711	150.000	24.3540	24.3536	0.00	206.921	206.976	-0.03
1712	152.000	24.3350	24.3362	-0.00	226.644	226.484	0.07
1713	154.000	24.3170	24.3134	-0.01	246.119	245.929	0.08
1714	156.000	24.3010	24.3043	-0.01	265.906	265.459	0.17
1715	158.000	24.2860	24.2912	-0.02	285.671	284.951	0.25
1716	160.000	24.2730	24.2734	-0.03	305.459	304.555	0.30
1717	162.000	24.2600	24.2631	-0.03	325.155	324.002	0.35
1718	164.000	24.2480	24.2533	-0.04	344.921	343.438	0.43
1601	126.000	24.9960	24.9930	-0.01	4.795	4.537	5.38
1602	128.000	24.9600	24.9634	-0.04	26.740	25.527	4.54
1603	130.000	24.9330	24.9432	-0.03	48.275	47.339	1.94
1604	132.000	24.9050	24.9136	-0.02	69.442	68.700	1.07
1605	134.000	24.8790	24.8834	-0.01	90.206	90.016	0.21
1606	136.000	24.8520	24.8520	0.00	110.901	110.907	-0.01
1607	138.000	24.8260	24.8248	0.00	131.437	131.645	-0.12
1608	140.000	24.8010	24.7935	0.01	152.046	152.247	-0.13
1609	142.000	24.7770	24.7752	0.00	172.619	172.724	-0.06
1610	144.000	24.7540	24.7549	-0.00	193.223	193.090	0.07
1611	146.000	24.7340	24.7355	-0.01	213.859	213.041	0.10
1612	148.000	24.7150	24.7134	-0.01	234.593	234.110	0.21
1613	148.000	24.7140	24.7132	-0.02	234.564	233.966	0.25
1614	150.000	24.6970	24.7024	-0.02	255.294	254.508	0.31
1615	152.000	24.6810	24.6830	-0.03	276.024	274.994	0.37
1616	154.000	24.6660	24.6744	-0.03	296.684	295.436	0.42
1617	156.000	24.6520	24.6620	-0.04	317.346	315.842	0.47
1618	158.000	24.6390	24.6519	-0.05	338.030	336.224	0.53
1501	122.000	25.3860	25.3342	0.01	3.482	3.731	-7.14
1502	124.000	25.3480	25.3526	-0.02	26.168	25.522	2.47
1503	126.000	25.3200	25.3233	-0.01	48.814	48.346	0.96
1504	128.000	25.2930	25.2838	0.02	70.363	70.960	-0.85
1505	130.000	25.2660	25.2530	0.03	92.218	93.236	-1.10
1506	132.000	25.2390	25.2312	0.03	114.039	115.186	-1.01
1507	134.000	25.2120	25.2030	0.03	135.786	136.823	-0.76
1508	134.000	25.2110	25.2052	0.02	135.814	136.675	-0.63
1509	136.000	25.1840	25.1734	0.02	157.173	158.007	-0.53
1510	138.000	25.1600	25.1554	0.02	178.601	179.497	-0.39
1511	140.000	25.1370	25.1342	0.01	200.430	200.862	-0.22
1512	142.000	25.1160	25.1152	0.00	222.144	222.271	-0.06
1513	144.000	25.0970	25.0978	-0.00	243.865	243.739	0.05
1514	146.000	25.0800	25.0823	-0.01	265.643	265.283	0.14
1515	148.000	25.0640	25.0634	-0.02	287.462	286.764	0.24
1516	150.000	25.0490	25.0558	-0.03	309.282	308.192	0.35

METHANE EQUATION OF STATE

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
1517	152.000	25.0350	25.0437	-0.03	330.987	329.578	0.43
1518	154.000	25.0220	25.0330	-0.04	352.726	350.934	0.51
1401	118.000	25.7770	25.7755	0.00	4.740	4.815	-1.58
1402	120.000	25.7390	25.7441	-0.02	28.487	27.705	2.75
1403	122.000	25.7100	25.7116	-0.01	51.814	51.564	0.48
1404	124.000	25.6820	25.6753	0.02	74.303	75.189	-1.19
1405	126.000	25.6540	25.6451	0.03	97.196	98.446	-1.28
1406	128.000	25.6250	25.6177	0.03	120.010	121.173	-0.97
1407	130.000	25.5980	25.5916	0.03	142.846	143.878	-0.72
1408	132.000	25.5740	25.5667	0.03	165.554	166.735	-0.71
1409	134.000	25.5500	25.5441	0.02	188.320	189.280	-0.51
1410	136.000	25.5240	25.5232	0.00	211.062	211.196	-0.06
1411	138.000	25.5030	25.5043	-0.01	233.855	233.643	0.09
1412	138.000	25.5030	25.5018	0.00	233.445	233.643	-0.08
1413	140.000	25.4840	25.4851	-0.00	256.331	256.151	0.07
1414	142.000	25.4660	25.4705	-0.02	279.330	278.569	0.27
1415	144.000	25.4500	25.4556	-0.03	302.209	301.081	0.37
1416	146.000	25.4350	25.4449	-0.04	325.227	323.532	0.52
1417	148.000	25.4220	25.4338	-0.05	348.148	346.107	0.59
1301	114.000	26.1420	26.1452	-0.01	4.106	3.581	12.79
1302	116.000	26.1030	26.1118	-0.03	28.896	27.421	5.10
1303	118.000	26.0720	26.0776	-0.02	52.918	52.137	1.57
1304	120.000	26.0440	26.0436	0.01	76.358	76.926	-0.74
1305	122.000	26.0140	26.0033	0.02	100.162	100.965	-0.80
1306	124.000	25.9850	25.9830	0.02	123.929	124.778	-0.69
1307	126.000	25.9560	25.9528	0.01	147.655	148.211	-0.38
1308	128.000	25.9290	25.9273	0.01	171.338	171.625	-0.17
1309	130.000	25.9040	25.9045	-0.00	195.123	195.039	0.04
1310	132.000	25.8810	25.8837	-0.01	218.955	218.474	0.22
1311	132.000	25.8800	25.9813	-0.01	218.534	218.296	0.11
1312	134.000	25.8590	25.8628	-0.01	242.441	241.772	0.28
1313	136.000	25.8400	25.8454	-0.02	266.440	265.308	0.43
1314	138.000	25.8220	25.8316	-0.04	290.474	288.737	0.60
1315	140.000	25.8070	25.8137	-0.05	314.577	312.445	0.68
1316	142.000	25.7920	25.8036	-0.06	338.590	335.902	0.79
1201	110.000	26.5190	26.5135	0.00	5.935	6.027	-1.55
1202	112.000	26.4800	26.4845	-0.02	31.839	31.022	2.57
1203	114.000	26.4490	26.4451	0.01	56.444	56.963	-0.92
1204	116.000	26.4190	26.4105	0.03	81.054	82.612	-1.92
1205	118.000	26.3880	26.3734	0.04	105.870	107.625	-1.66
1206	120.000	26.3570	26.3436	0.03	130.659	132.203	-1.18
1207	122.000	26.3270	26.3218	0.02	155.400	156.548	-0.74
1208	124.000	26.2990	26.2952	0.01	180.154	180.866	-0.40
1209	126.000	26.2740	26.2719	0.01	204.975	205.366	-0.19
1210	128.000	26.2510	26.2511	-0.00	229.892	229.883	0.00
1211	130.000	26.2300	26.2325	-0.01	254.906	254.438	0.18
1212	132.000	26.2110	26.2131	-0.02	280.025	279.052	0.35
1213	134.000	26.1930	26.2016	-0.03	305.214	303.551	0.54
1214	134.000	26.1920	26.2033	-0.03	304.967	303.358	0.53
1215	136.000	26.1760	26.1875	-0.04	330.185	327.952	0.68
1101	106.000	26.9010	26.9036	-0.01	12.022	11.503	4.32
1102	108.000	26.8640	26.8636	-0.02	38.986	38.088	2.30
1103	110.000	26.8330	26.8294	0.01	64.591	65.305	-1.10

ID	T,K	MOL/L	CALCD	D,PCT	P,BAR	CALCD	P,PCT
1104	112.000	26.8610	25.7934	0.03	90.300	91.804	-1.67
1105	114.000	26.7680	25.7635	0.03	116.122	117.008	-1.28
1106	115.000	26.7360	25.7237	0.02	141.871	143.133	-0.89
1107	118.000	26.7000	25.7013	0.02	167.053	168.002	-0.57
1108	120.000	26.6790	25.6755	0.01	193.539	194.239	-0.36
1109	122.000	26.6530	25.6524	0.00	219.542	219.665	-0.06
1110	124.000	26.6300	25.6325	-0.01	245.820	245.307	0.21
1111	124.000	26.6310	25.6318	-0.00	245.076	245.510	0.07
1112	126.000	26.6100	25.6142	-0.02	272.049	271.189	0.32
1113	128.000	26.5920	25.5937	-0.03	298.510	297.133	0.46
1114	130.000	26.5740	25.5650	-0.04	325.020	322.744	0.70
1115	132.000	26.5590	25.5722	-0.05	351.423	348.061	0.79
1001	102.000	27.2320	27.2314	0.00	8.474	8.010	-1.60
1002	104.000	27.1920	27.1932	-0.01	33.489	35.826	1.82
1003	106.000	27.1600	27.1548	0.02	63.034	64.119	-1.72
1004	108.000	27.1270	27.1170	0.04	89.515	91.033	-2.37
1005	110.000	27.0930	27.0827	0.04	116.218	118.391	-1.87
1006	112.000	27.0600	27.0510	0.03	142.937	144.839	-1.33
1007	114.000	27.0290	27.0214	0.03	169.612	171.216	-0.95
1008	116.000	27.0010	26.9950	0.02	196.400	197.757	-0.65
1009	116.000	27.0010	26.9950	0.02	196.471	197.757	-0.65
1010	118.000	26.9760	26.9717	0.02	223.508	224.491	-0.41
1011	120.000	26.9520	26.9513	0.00	250.862	251.014	-0.06
1012	122.000	26.9310	26.9333	-0.01	278.278	277.779	0.18
1013	124.000	26.9120	26.9130	-0.02	305.898	304.595	0.43
1014	125.000	26.8950	26.9039	-0.03	333.424	331.484	0.58
901	98.000	27.5860	27.5337	-0.00	12.437	12.281	1.25
902	100.000	27.5480	27.5308	-0.01	41.407	40.777	1.52
903	102.000	27.5160	27.5034	0.03	68.096	70.418	-2.51
904	104.000	27.4810	27.4710	0.04	96.270	98.759	-2.59
905	106.000	27.4470	27.4349	0.04	124.002	126.731	-2.20
906	108.000	27.4130	27.4025	0.04	151.755	154.136	-1.57
907	110.000	27.3820	27.3730	0.03	179.049	181.081	-1.13
908	112.000	27.3530	27.3470	0.02	207.794	209.167	-0.66
909	114.000	27.3280	27.3239	0.01	236.148	237.075	-0.39
910	115.000	27.3050	27.3040	0.00	264.752	264.979	-0.09
911	116.000	27.3050	27.3046	0.00	264.894	264.979	-0.03
912	118.000	27.2850	27.2871	-0.01	293.612	293.133	0.16
913	120.000	27.2660	27.2718	-0.02	322.446	321.104	0.42
801	94.000	27.9000	27.9017	-0.01	7.513	7.112	5.34
802	95.000	27.8580	27.8523	-0.02	37.517	36.483	2.70
803	98.000	27.8250	27.8176	0.03	65.517	67.284	-2.70
804	100.000	27.7890	27.7730	0.04	94.061	96.685	-2.79
805	102.000	27.7530	27.7416	0.04	122.725	125.437	-2.21
806	104.000	27.7190	27.7078	0.04	151.383	154.048	-1.76
807	106.000	27.6860	27.6773	0.03	180.222	182.310	-1.16
808	108.000	27.6570	27.6512	0.02	209.351	210.970	-0.77
809	110.000	27.6300	27.6255	0.01	238.728	239.577	-0.36
810	112.000	27.6070	27.6030	0.00	268.394	268.642	-0.09
811	114.000	27.5860	27.5833	-0.01	298.261	297.711	0.18
812	115.000	27.5670	27.5733	-0.02	328.347	325.813	0.47
601	92.000	28.2090	28.2134	-0.02	44.123	42.393	2.56
602	94.000	28.1750	28.1556	0.03	72.852	74.997	-2.94
603	95.000	28.1370	28.1254	0.04	102.543	105.238	-2.63
604	98.000	28.1010	28.0835	0.04	132.353	135.250	-2.71
605	100.000	28.0660	28.0553	0.04	162.180	164.904	-1.68
606	100.000	28.0660	28.0553	0.04	162.190	164.304	-1.67
607	102.000	28.0340	28.0245	0.03	192.243	194.652	-1.25
608	104.000	28.0040	27.9977	0.02	222.087	224.300	-0.72
609	106.000	27.9780	27.9747	0.01	253.551	254.386	-0.33
610	108.000	27.9550	27.9548	0.00	284.641	284.593	-0.02
611	110.000	27.9350	27.9330	-0.01	315.018	315.247	-0.24
612	112.000	27.9160	27.9236	-0.03	347.527	345.508	0.56
701	94.000	28.3910	28.3734	0.04	128.133	131.226	-2.41
702	96.000	28.3540	28.3437	0.04	158.393	161.040	-1.73
703	98.000	28.3210	28.3115	0.03	189.886	192.421	-1.33
704	100.000	28.2900	28.2835	0.02	221.338	223.072	-0.76
705	102.000	28.2640	28.2535	0.02	253.222	254.422	-0.47
706	104.000	28.2400	28.2330	0.00	285.440	285.706	-0.09
707	106.000	28.2190	28.2221	-0.01	318.049	317.229	0.26
708	108.000	28.2000	28.2058	-0.02	350.556	348.750	0.52
514	95.500	28.5520	28.5538	0.00	224.938	225.257	-0.14
515	97.000	28.5450	28.5443	0.00	233.128	233.308	-0.08
516	98.000	28.5310	28.5323	-0.00	249.643	249.285	0.14
517	100.000	28.5070	28.5116	-0.01	282.843	281.801	0.35
518	100.000	28.5070	28.5119	-0.01	282.935	281.861	0.38
519	102.000	28.4860	28.4924	-0.02	316.433	314.651	0.56
520	104.000	28.4660	28.4757	-0.04	350.093	347.134	0.85

NP = 554, DNRMSPCT = 0.194, 01EANPCT = 0.497

Table 5. Comparison of specific heats for saturated liquid, J/(mol · K)

ID	T, K	CSAT	CALC	PCNT
201	95.402	54.240	53.240	1.84
401	95.846	54.131	53.307	1.52
202	99.021	54.647	53.833	1.49
302	101.651	54.877	54.300	1.05
402	101.961	54.790	54.356	0.79
203	102.574	54.836	54.465	0.79
204	106.891	55.612	55.204	0.72
303	108.219	55.583	55.417	0.30
403	108.800	55.315	55.507	-0.35
205	112.604	56.075	56.064	0.02
304	115.165	56.434	56.410	0.04
206	119.117	56.810	56.922	-0.20
305	122.474	57.237	57.365	-0.14
405	123.367	56.336	57.488	-0.86
207	125.766	57.645	57.835	-0.33
406	130.765	58.245	58.673	-0.73
208	132.274	58.774	58.964	-0.32
1001	132.751	58.879	59.060	-0.31
302	135.455	58.930	59.643	-1.21
1002	137.805	59.729	60.206	-0.80
903	139.970	59.638	60.770	-1.80
801	144.305	60.560	62.029	-2.43
904	144.401	60.929	62.059	-1.85
802	148.506	62.033	63.402	-2.21
905	148.881	62.035	63.534	-2.47
1003	150.824	64.014	64.224	-0.33
803	152.849	63.838	64.962	-1.67
306	153.157	64.048	65.096	-1.64
1004	155.542	65.246	66.040	-1.22
804	157.043	65.435	66.668	-1.88
907	157.355	65.559	66.802	-1.88
1005	159.127	66.935	67.593	-1.03
805	161.181	67.733	68.583	-1.25
908	161.483	67.838	68.737	-1.24
1006	163.136	68.379	69.622	-1.82
402	163.782	69.936	69.992	-0.08
407	165.128	70.865	70.813	0.07
806	165.249	70.534	70.891	-0.51
309	165.548	70.745	71.085	-0.48
1007	166.549	71.756	71.768	-0.02
807	169.253	73.950	73.918	0.06
910	169.565	74.411	74.201	0.28
220	170.157	74.696	74.762	-0.09
1008	170.197	75.369	74.801	0.75
408	170.251	75.575	74.854	0.95
403	171.097	76.320	75.721	0.79
808	173.180	78.540	78.212	0.42
911	173.480	79.134	78.619	0.73
701	173.505	78.678	78.654	0.03
216	174.032	79.623	79.406	0.27
1009	174.429	81.334	80.604	1.64
409	175.228	82.128	81.734	0.48
404	176.295	84.253	83.641	0.73
809	177.029	85.456	85.096	0.43
221	177.420	87.382	85.925	1.67
702	177.962	86.730	87.003	-0.25
1010	178.557	88.641	88.579	0.07
200	180.613	95.067	94.560	0.53
217	181.034	96.349	96.028	0.33
703	181.645	98.844	98.346	0.50
1011	182.572	103.442	102.372	1.03
222	184.222	113.330	111.643	1.49
704	185.271	121.769	119.690	1.71
201	186.127	132.153	128.276	2.93
1012	187.577	141.359	150.568	-6.51
218	187.633	156.489	151.752	3.03

Table 6. Comparison of specific heats $C_v(\rho, T)$, J/(mol · K)

ID	T, K	P, BAR	MOL/L	C, XPTL	C, CALC	PCNT
2209	200.342	56.917	7.991	35.351	34.277	3.04
2203	201.339	58.027	7.991	35.004	33.907	3.13
2210	207.854	55.217	7.988	33.153	32.179	2.94
2204	208.158	65.552	7.988	33.141	32.116	3.09
2211	215.402	73.451	7.984	31.732	30.992	2.33
2212	222.937	31.598	7.980	31.046	30.243	2.59
2205	222.993	31.658	7.980	31.059	30.239	2.64
2206	230.373	89.593	7.977	30.698	29.757	3.07
2213	230.454	39.670	7.977	30.381	29.753	2.07
2207	237.534	37.229	7.973	30.419	29.448	3.19
2214	238.128	37.852	7.973	30.198	29.428	2.55
2203	244.733	114.831	7.970	30.045	29.252	2.64
2216	252.790	113.436	7.966	28.913	29.138	-0.78
2218	266.349	127.671	7.959	29.785	29.135	2.18
1505	195.780	53.853	10.176	39.325	36.351	7.56
1506	202.601	54.048	10.171	34.818	33.283	4.41
1502	203.142	54.857	10.171	34.032	33.142	2.61
1507	209.526	74.426	10.166	32.879	31.911	2.94
1503	209.853	74.915	10.166	33.020	31.864	3.50
1504	216.813	85.365	10.161	32.185	31.052	3.52
1508	216.467	34.845	10.161	31.750	31.085	2.09
1509	223.396	35.256	10.157	31.318	30.266	3.36
1510	230.790	116.373	10.151	30.432	29.784	2.13
1511	237.756	116.844	10.147	29.998	29.492	1.69
1512	244.636	127.181	10.142	29.857	29.316	1.81
1513	251.488	137.456	10.137	29.650	29.226	1.43
1514	259.403	149.331	10.131	29.632	29.207	1.44
1515	266.154	159.433	10.126	29.560	29.249	1.05
1517	282.516	183.843	10.114	29.922	29.528	1.32
1518	289.146	193.696	10.110	29.964	29.699	0.89
1519	295.822	213.596	10.105	30.170	29.899	0.90
219	195.627	55.318	11.838	37.165	34.952	5.95
223	196.581	57.055	11.839	36.177	34.474	4.71
224	203.924	70.601	11.832	33.223	32.299	2.78
225	211.370	84.550	11.826	31.908	31.207	2.20
205	215.626	32.534	11.822	31.148	30.790	1.15
226	218.787	98.572	11.819	30.922	30.546	1.24
206	223.653	117.819	11.815	30.609	29.963	2.11
227	226.191	112.653	11.813	30.347	29.806	1.80
207	231.675	123.117	11.808	30.155	29.527	2.08
228	233.566	126.729	11.806	30.130	29.454	2.24
208	239.625	138.319	11.801	30.043	29.279	2.54
229	240.923	140.803	11.800	29.653	29.252	1.35
209	248.734	155.751	11.792	29.604	29.153	1.52
210	257.453	172.459	11.784	29.534	29.151	1.30
211	266.957	130.643	11.775	29.632	29.250	1.29
212	276.534	208.934	11.766	29.762	29.436	0.90
214	296.364	246.647	11.748	30.098	30.032	0.22
301	204.751	77.746	13.088	32.393	31.334	3.27
302	212.016	93.924	13.080	31.485	30.589	2.84
303	219.265	110.242	13.073	30.868	30.106	2.47

Table 6. Comparison of specific heats $C_v(\rho, T)$, J/(mol · K) (continued)

ID	T, K	P, BAR	MOL/L	C, XPTL	C, CALC	PCNT
304	226.524	126.637	13.065	30.478	29.480	3.28
305	234.072	143.831	13.057	30.165	29.211	3.16
306	241.245	160.256	13.050	29.985	29.077	3.03
307	248.387	176.530	13.042	29.965	29.034	3.11
309	262.566	218.987	13.026	29.918	29.148	2.58
310	276.780	241.398	13.011	30.309	29.458	2.81
313	276.944	241.772	13.010	30.114	29.463	2.16
314	283.783	257.318	13.003	30.147	29.668	1.59
311	290.591	272.756	12.995	30.375	29.901	1.56
312	297.427	298.216	12.987	30.687	30.161	1.71
501	191.539	52.228	14.388	34.042	32.384	4.87
528	195.039	51.226	14.383	32.765	31.654	3.39
502	198.638	70.602	14.379	32.000	31.120	2.75
520	200.323	75.028	14.377	31.860	30.919	2.95
503	205.816	89.577	14.371	31.171	30.405	2.46
521	208.733	97.356	14.366	30.940	30.196	2.41
504	212.954	108.696	14.362	30.585	29.949	2.08
522	217.103	119.884	14.356	30.292	29.757	1.77
505	220.066	127.901	14.353	30.152	29.434	2.38
523	225.394	142.360	14.346	30.032	29.195	2.79
506	227.167	147.190	14.344	30.067	29.135	3.10
524	234.287	166.574	14.334	29.826	28.969	2.87
507	234.417	166.928	14.335	29.805	28.967	2.81
508	241.372	185.912	14.326	29.647	28.903	2.51
525	242.493	188.962	14.324	29.585	28.900	2.32
509	248.293	214.731	14.317	29.485	28.913	1.94
510	255.197	223.622	14.308	29.500	28.983	1.75
511	262.143	242.543	14.299	29.656	29.103	1.86
514	265.537	251.779	14.294	29.681	29.178	1.70
512	269.538	262.650	14.289	29.689	29.278	1.38
515	273.495	273.386	14.284	29.885	29.390	1.66
513	277.494	284.223	14.278	29.877	29.514	1.22
516	281.439	294.892	14.273	30.061	29.646	1.38
517	289.349	316.229	14.262	30.557	29.940	2.02
1601	185.501	+2.477	16.038	32.608	31.345	3.87
1602	187.587	+9.323	16.035	32.198	30.994	3.74
1603	189.591	55.934	16.032	31.832	30.727	3.47
1604	191.595	62.532	16.029	31.732	30.506	3.86
1618	192.871	56.824	16.024	31.410	30.384	3.27
1605	193.605	59.272	16.026	31.163	30.319	2.71
1606	195.615	75.989	16.023	31.041	30.158	2.85
1607	197.622	92.719	16.020	31.157	30.018	3.66
1608	199.628	89.464	16.017	30.831	29.895	3.03
1619	200.031	90.821	16.011	30.746	29.872	2.84
1620	209.230	121.946	15.996	30.246	29.476	2.54
1609	217.984	151.399	15.986	29.793	29.255	1.81
1611	223.224	169.616	15.977	29.830	28.908	3.09
1610	223.903	171.930	15.976	29.834	28.890	3.16
1622	229.421	190.754	15.964	29.842	28.787	3.53
1612	229.453	190.871	15.967	29.795	28.787	3.38
1623	239.424	224.878	15.948	29.681	28.745	3.15

Table 6. Comparison of specific heats $C_v(\rho, T)$, J/(mol · K) (continued)

ID	T, K	P, BAR	MOL/L	C, XPTL	C, CALC	PCNT
1613	241.503	231.959	15.948	29.748	28.756	3.34
1614	247.521	252.433	15.939	29.715	28.816	3.03
1615	253.443	272.535	15.929	29.742	28.914	2.79
1616	259.333	292.473	15.919	29.869	29.044	2.76
1617	265.198	312.270	15.910	29.856	29.203	2.19
1625	269.447	326.572	15.901	29.942	29.335	2.03
701	187.947	51.079	16.103	32.040	30.863	3.67
707	188.669	53.489	16.102	31.992	30.768	3.83
721	191.577	53.234	16.097	31.546	30.447	3.48
702	195.118	75.175	16.092	31.068	30.147	2.96
708	195.637	76.929	16.091	31.042	30.109	3.00
720	199.140	88.817	16.086	30.673	29.885	2.57
703	202.277	99.508	16.081	30.672	29.722	3.10
709	202.632	110.720	16.080	30.443	29.706	2.42
704	209.408	123.921	16.070	30.206	29.447	2.51
710	209.569	124.473	16.070	30.260	29.442	2.70
711	216.494	148.281	16.059	29.913	29.266	2.16
705	216.509	148.334	16.059	29.877	29.266	2.05
711	223.352	171.938	16.048	29.807	28.892	3.07
706	223.900	173.795	16.047	29.782	28.878	3.03
713	230.437	196.326	16.037	29.642	28.767	2.95
714	237.251	219.796	16.026	29.731	28.736	3.35
715	244.048	243.173	16.015	29.596	28.773	2.78
716	250.777	266.259	16.004	29.629	28.865	2.58
717	257.424	288.998	15.993	29.692	29.000	2.33
718	264.035	311.538	15.982	29.946	29.173	2.58
719	270.623	333.917	15.971	29.851	29.379	1.58
1309	184.764	45.449	16.723	31.721	30.621	3.47
1301	187.826	56.698	16.717	31.357	30.298	3.38
1310	190.103	65.039	16.714	31.150	30.108	3.34
1302	194.733	82.255	16.706	30.685	29.808	2.86
1311	195.445	84.934	16.706	30.679	29.769	2.97
1303	201.094	105.936	16.696	30.196	29.518	2.25
1323	202.937	112.841	16.693	30.239	29.452	2.60
1312	206.062	124.532	16.688	30.204	29.357	2.81
1304	206.122	124.756	16.689	30.023	29.355	2.22
1324	208.580	134.336	16.683	30.184	29.289	2.96
1305	210.401	140.798	16.681	29.882	29.250	2.11
1313	211.348	144.339	16.679	29.987	29.230	2.52
1325	214.143	154.818	16.674	29.847	29.179	2.24
1306	215.024	158.123	16.673	29.840	29.164	2.26
1314	216.658	154.252	16.670	29.924	29.140	2.62
1326	219.582	175.218	16.665	29.727	29.103	2.10
1327	225.003	195.545	16.655	29.749	28.775	3.27
1317	232.337	223.039	16.643	29.585	28.703	2.98
1318	237.557	242.891	16.633	29.651	28.707	3.18
1319	243.097	263.174	16.624	29.802	28.752	3.52
1320	248.519	283.339	16.614	29.686	28.832	2.88
1321	253.921	303.370	16.604	29.831	28.940	2.99
1322	259.304	323.264	16.595	29.913	29.075	2.80
411	187.325	58.459	17.007	31.221	30.119	3.53

Table 6. Comparison of specific heats $C_v(\rho, T)$, J/(mol · K) (continued)

ID	T, K	P, BAR	MOL/L	C, XPTL	C, CALC	PCNT
401	193.924	83.993	16.997	30.513	29.705	2.65
406	196.587	94.337	16.992	30.399	29.583	2.68
413	203.953	123.625	16.978	30.119	29.332	2.61
414	211.988	154.390	16.964	30.033	29.166	2.91
415	219.901	185.232	16.950	29.782	29.063	2.41
416	227.768	215.952	16.936	29.698	28.715	3.31
417	235.598	246.337	16.922	29.743	28.693	3.53
418	245.293	283.931	16.904	29.635	28.786	2.87
419	252.926	313.338	16.890	29.667	28.932	2.48
1801	178.581	37.972	18.086	31.280	30.072	3.86
1802	181.649	51.836	18.080	30.991	29.854	3.67
1803	186.224	72.545	18.068	30.598	29.610	3.23
1804	192.299	100.093	18.056	30.377	29.382	3.28
1805	198.354	127.540	18.044	30.090	29.225	2.87
1806	204.379	154.828	18.032	29.958	29.119	2.80
1807	210.370	181.915	18.019	29.803	29.050	2.53
1808	216.641	210.137	18.006	29.741	29.010	2.46
1809	222.620	237.153	17.994	29.812	28.747	3.57
1810	228.488	263.318	17.982	29.742	28.698	3.51
1811	234.304	289.242	17.970	29.683	28.708	3.28
1812	240.990	318.931	17.955	29.841	28.778	3.56
1739	172.603	40.312	19.500	30.637	29.495	3.73
1710	178.550	73.419	19.486	30.586	29.587	3.27
1701	181.613	90.419	19.479	30.306	29.476	2.74
1711	184.637	117.182	19.472	30.262	29.388	2.89
1702	187.628	123.725	19.465	30.094	29.317	2.58
1712	190.680	140.554	19.457	30.082	29.257	2.74
1703	193.640	156.857	19.450	30.021	29.210	2.70
1713	196.693	173.622	19.443	29.980	29.171	2.70
1704	199.616	189.630	19.435	29.918	29.141	2.60
1714	202.661	216.250	19.428	29.976	29.117	2.87
1705	205.568	222.036	19.421	29.798	29.100	2.34
1715	208.615	238.633	19.413	29.854	29.089	2.56
1706	211.480	254.140	19.406	29.844	29.084	2.55
1716	214.522	270.555	19.398	29.783	29.084	2.35
1707	217.573	286.970	19.391	29.752	29.089	2.23
1717	220.387	302.058	19.384	29.837	28.882	3.20
1708	223.411	318.216	19.376	29.789	28.850	3.15
807	161.140	39.334	21.312	30.545	30.771	-0.74
801	165.189	68.455	21.298	30.567	30.409	0.52
808	166.828	80.175	21.295	30.509	30.231	0.91
802	171.921	116.374	21.278	30.496	29.683	2.67
809	172.488	120.333	21.278	30.337	29.633	2.32
810	178.091	159.845	21.261	30.308	29.803	1.67
803	178.582	153.284	21.257	30.276	29.788	1.61
811	183.640	198.575	21.244	30.225	29.661	1.87
804	185.182	219.230	21.237	30.195	29.631	1.87
812	189.153	236.719	21.227	30.237	29.568	2.21
805	191.734	254.462	21.217	30.176	29.536	2.12
813	194.626	274.250	21.210	30.230	29.507	2.39
806	198.229	298.774	21.197	30.140	29.480	2.19

Table 6. Comparison of specific heats $C_V(\rho, T)$, J/(mol · K) (continued)

ID	T, K	P, BAR	MOL/L	C, XPTL	C, CALC	PCNT
314	200.078	311.300	21.192	30.110	29.469	2.13
2109	153.984	30.846	22.126	31.040	31.271	-0.75
2101	157.876	32.133	22.113	30.931	31.219	-0.93
2102	162.200	36.526	22.098	30.800	30.966	-0.54
2103	166.497	130.432	22.083	30.832	30.544	0.93
2104	170.767	163.847	22.069	30.716	30.070	2.10
2105	175.011	196.789	22.054	30.567	30.193	1.22
2106	179.314	229.914	22.040	30.615	30.038	1.88
2107	183.514	261.932	22.025	30.432	29.933	1.64
2108	187.761	233.639	22.011	30.468	29.856	2.01
1406	148.828	44.459	22.933	31.314	31.549	-0.75
1407	155.536	114.131	22.907	31.098	31.680	-1.87
1402	155.969	117.942	22.906	31.100	31.674	-1.84
1401	156.936	116.449	22.900	31.042	31.653	-1.97
1408	162.130	161.835	22.883	30.958	31.364	-1.31
1403	162.555	165.498	22.881	30.925	31.328	-1.30
1409	168.648	217.953	22.858	30.923	30.678	0.79
1404	169.076	221.618	22.856	30.826	30.628	0.64
1410	175.122	272.935	22.834	30.798	30.550	0.81
1405	175.530	276.347	22.832	30.898	30.531	1.19
2001	139.673	45.339	24.008	31.796	31.731	0.20
2002	143.270	88.559	23.990	31.655	31.988	-1.05
2003	147.448	130.924	23.972	31.612	32.213	-1.90
2004	151.599	172.491	23.954	31.437	32.352	-2.91
2005	155.968	215.114	23.935	31.550	32.348	-2.53
2006	160.011	255.209	23.917	31.258	32.165	-2.90
2007	164.072	294.445	23.903	31.267	31.816	-1.74
901	130.508	34.766	24.785	32.662	31.993	2.05
909	131.593	48.379	24.772	32.454	32.041	1.27
904	132.694	59.842	24.767	32.479	32.083	1.22
902	134.136	76.278	24.761	32.166	32.148	0.06
910	137.159	110.410	24.746	32.080	32.294	-0.67
903	139.337	134.756	24.735	31.949	32.408	-1.44
911	142.547	170.300	24.720	31.911	32.580	-2.10
905	143.713	183.112	24.715	31.964	32.641	-2.12
912	147.866	228.534	24.695	31.785	32.830	-3.29
907	149.124	241.315	24.689	31.732	32.871	-3.59
913	153.185	285.371	24.670	31.728	32.933	-3.80
908	154.473	239.129	24.664	31.839	32.924	-3.41
1201	121.160	34.484	25.872	33.145	32.926	0.66
1202	124.223	114.694	25.855	32.958	33.003	-0.14
1203	127.262	144.031	25.838	32.757	33.065	-0.94
1204	130.274	182.414	25.822	32.691	33.130	-1.34
1101	110.867	44.363	26.655	33.910	33.413	1.47
1103	111.855	59.633	26.649	33.724	33.496	0.68
1106	111.917	50.514	26.649	33.789	33.501	0.85
1102	116.030	120.523	26.624	33.557	33.746	-0.56
1107	117.051	135.131	26.618	33.478	33.786	-0.92
1104	122.089	206.396	26.588	33.415	33.898	-1.45
1108	122.094	216.453	26.588	33.311	33.898	-1.76
1109	127.100	275.451	26.559	33.180	33.942	-2.30
1105	127.123	275.759	26.558	33.210	33.942	-2.20
1004	102.424	48.414	27.388	34.428	33.505	2.68
1001	105.029	30.948	27.371	34.267	33.880	1.13
1005	107.466	129.312	27.355	34.129	34.170	-0.12
1002	110.058	170.735	27.338	34.049	34.411	-1.06
1006	112.446	237.876	27.322	34.035	34.573	-1.58
1003	115.142	249.013	27.305	33.999	34.694	-2.04
1007	117.361	282.431	27.290	33.879	34.751	-2.58
1912	92.592	40.274	28.164	35.326	33.339	5.63
1901	92.669	40.540	28.164	35.415	33.340	5.86
1907	93.793	52.334	28.155	35.186	33.492	4.81
1902	95.465	32.859	28.143	35.003	33.731	3.63
1913	95.634	35.385	28.141	35.020	33.756	3.61
1908	96.575	114.525	28.134	34.898	33.913	2.82
1903	98.361	143.313	28.122	34.913	34.161	2.15
1909	99.565	154.435	28.114	34.830	34.344	1.40
1904	101.123	132.536	28.102	34.839	34.580	0.74
1910	102.319	213.035	28.093	34.710	34.746	-0.10
1905	103.902	240.132	28.082	34.793	34.948	-0.45
1911	105.104	250.314	28.074	34.600	35.087	-1.41
1906	106.655	216.252	28.063	34.644	35.247	-1.74

Table 7. Comparison of specific heats $C_p(p, T)$, $J/(mol \cdot K)$

For each isotherm the first (upper) row is from [40], and the second row is computed by present methods.

$P, \text{BAR} = T, K$	10.34	20.68	24.13	31.03	37.92	41.37	43.09	46.88	55.16	63.35	82.74	103.42	137.90
110.483	55.42	55.36	55.36	55.29	55.22	55.16	55.09	55.09	55.02	54.95	54.89	54.55	54.01
	56.56	56.34	56.27	56.13	55.99	55.93	55.89	55.82	55.67	55.43	55.21	54.90	54.44
122.039	56.57	56.30	56.43	56.30	56.16	56.03	55.96	55.96	55.83	55.59	55.42	54.89	54.35
	57.35	57.08	56.99	56.81	56.65	56.57	56.53	56.44	56.26	55.37	55.70	55.32	54.77
127.594	57.91	57.31	57.44	57.37	57.04	56.97	56.90	56.77	56.50	56.37	56.03	55.36	54.75
	58.28	57.33	57.82	57.61	57.40	57.30	57.25	57.15	56.92	56.37	56.24	55.80	55.15
133.150	59.39	58.78	58.58	58.38	58.04	57.91	57.78	57.71	57.31	57.10	56.70	55.95	55.16
	59.49	59.04	58.90	58.63	58.37	58.25	58.19	58.05	57.78	57.35	56.95	56.42	55.64
138.706	61.14	60.13	59.93	59.66	59.46	59.19	58.99	58.85	58.52	57.84	57.37	56.57	55.56
	61.07	60.49	60.31	59.96	59.63	59.47	59.39	59.23	58.88	58.35	57.87	57.22	56.31
144.261	63.42	61.74	61.61	61.00	60.53	60.40	60.19	60.06	59.72	58.95	58.11	57.37	56.10
	63.11	62.33	62.08	61.62	61.20	60.99	60.89	60.68	60.24	59.58	58.98	58.20	57.11
149.817	63.76	63.69	63.69	62.88	62.14	61.81	61.67	61.27	60.93	59.79	59.12	58.25	56.70
	64.30	64.27	64.27	63.84	63.07	62.79	62.66	62.38	61.81	60.96	60.21	59.25	57.94
155.372	42.12	63.58	66.38	65.23	64.16	63.89	63.62	63.08	62.41	61.20	60.26	59.32	57.51
	42.90	67.47	66.97	66.07	65.26	64.88	64.70	64.32	63.55	62.43	61.47	60.26	58.68
160.928	40.51	71.35	69.87	68.59	67.05	66.91	66.38	65.50	64.83	63.06	61.74	60.53	58.45
	41.26	71.37	70.57	69.16	67.94	67.39	67.13	66.58	65.50	63.97	62.71	61.17	59.23
166.483	39.37	73.77	73.05	73.77	71.62	70.94	70.68	69.20	68.32	65.77	63.82	62.01	59.52
	40.07	71.68	71.19	71.68	70.80	70.39	70.39	69.54	67.93	65.76	64.04	62.04	59.63
172.039	38.56	55.49	82.83	82.83	78.94	77.66	77.19	75.71	73.09	69.67	66.44	63.62	60.73
	39.16	54.61	81.89	81.89	77.94	76.35	75.62	74.17	71.54	68.26	65.83	63.15	60.11
177.594	38.02	50.65	58.18	106.08	93.72	89.08	87.94	84.58	80.21	74.37	69.73	65.43	62.01
	38.46	43.35	57.71	102.40	91.32	87.62	86.04	83.07	78.17	72.75	69.13	65.43	61.52
183.150	37.62	47.36	52.74	75.04	133.48	114.41	109.37	102.92	89.75	81.09	74.30	67.79	63.49
	37.90	46.82	52.06	73.65	135.18	115.88	110.17	101.07	89.28	79.06	73.28	67.36	62.87
188.706	37.29	44.34	49.24	62.01	100.24	164.66	352.17	184.48	115.42	90.40	80.48	70.81	65.03
	37.45	44.70	48.53	61.26	97.14	170.71	382.48	175.33	114.30	83.42	79.24	71.28	64.52
194.261	37.02	43.26	46.69	54.95	73.30	91.50	101.18	193.21	240.85	107.09	88.38	75.18	66.85
	37.09	43.15	46.11	54.83	72.02	89.24	103.10	168.97	243.30	103.31	88.15	75.59	66.50

Table 7. Comparison of specific heats $C_p(0, T)$, J/(mol · K) (continued)

$P, \text{BAR} =$ T, K	10.34	20.38	24.13	31.03	37.92	41.37	43.09	46.88	55.16	63.35	82.74	103.42	137.90
193.817	36.75 36.79	41.32 41.36	44.68 44.35	50.79 50.83	62.01 61.52	71.82 70.01	77.33 75.62	94.46 93.36	231.44 212.17	143.77 155.29	102.23 102.21	81.76 81.18	68.86 68.79
205.372	36.55 36.55	40.35 41.13	43.13 43.01	47.90 48.09	55.76 55.59	61.94 60.87	65.64 64.07	75.38 72.99	111.05 108.18	194.33 192.43	123.51 124.89	90.49 88.33	70.94 71.41
210.928	36.41 36.36	40.04 40.29	41.79 41.96	45.82 46.09	51.60 51.75	55.63 55.44	58.25 57.57	64.96 63.14	84.31 81.34	139.10 143.24	138.76 142.21	97.88 96.93	73.56 74.27
216.483	36.28 36.20	39.37 39.59	40.85 41.13	44.27 44.58	48.77 49.05	51.60 51.82	53.28 53.37	57.98 57.27	69.94 68.78	103.26 100.30	127.71 123.58	103.12 104.69	76.18 77.23
222.039	36.08 36.08	38.30 39.21	40.11 40.46	43.13 43.40	46.89 47.05	48.91 49.24	50.18 50.43	53.28 53.36	61.74 61.46	85.32 81.47	105.34 104.75	103.66 104.49	79.01 79.72
227.594	36.01 36.00	33.50 38.31	39.57 39.92	42.19 42.47	45.08 45.53	46.89 47.31	47.77 48.27	50.32 50.57	56.50 56.56	74.10 70.56	37.34 37.75	97.68 96.00	81.22 81.58
233.150	35.94 35.94	38.23 38.49	39.10 39.49	41.38 41.72	44.00 44.33	45.48 45.82	46.29 46.61	48.03 48.49	53.37 53.29	65.77 63.74	76.32 76.32	88.21 87.83	80.89 81.91
238.706	35.94 35.90	37.36 38.24	38.76 39.13	40.78 41.11	43.06 43.38	44.27 44.65	45.08 45.32	46.42 46.89	50.79 50.80	53.36 53.37	58.36 58.64	79.48 80.65	78.87 80.17
244.261	35.88 35.89	37.76 38.13	38.50 38.84	40.24 40.61	42.26 42.61	43.40 43.71	43.74 44.29	45.41 45.62	48.44 48.39	55.36 55.50	63.22 63.20	72.35 73.30	76.32 76.74
249.817	35.94 35.90	37.62 37.38	38.29 38.61	39.84 40.21	41.59 41.99	42.73 42.95	43.13 43.46	44.34 44.62	46.36 47.40	52.74 52.89	59.05 59.19	66.78 68.30	73.36 73.03
255.372	35.94 35.93	37.55 37.76	38.16 38.43	39.57 39.89	41.12 41.48	42.06 42.34	42.39 42.78	43.47 43.80	45.68 45.22	50.55 50.37	55.83 56.13	62.34 63.31	70.14 69.75
261.928	36.01 35.98	37.49 37.58	38.02 38.30	39.37 39.63	40.78 41.07	41.59 41.84	42.79 42.23	44.34 43.14	46.34 45.26	49.11 49.27	53.34 53.74	58.92 60.44	67.05 66.88
266.483	36.08 36.05	37.42 37.53	37.96 38.20	39.17 39.42	40.44 40.74	41.05 41.43	41.38 41.79	42.19 42.60	44.27 44.43	47.83 47.98	51.39 51.58	56.43 57.58	64.09 64.29
272.039	36.14 36.13	37.42 37.51	37.89 38.14	39.03 39.27	40.24 40.47	40.78 41.10	41.05 41.43	41.85 42.16	44.00 43.84	46.99 46.34	49.38 50.32	54.55 55.45	61.54 61.86
277.594	36.21 36.23	37.42 37.52	37.89 38.11	38.97 39.16	40.17 40.26	40.64 40.84	40.85 41.14	41.59 41.80	43.50 43.32	45.12 45.19	48.31 49.08	53.14 53.63	59.46 59.65
283.150	36.28 36.34	37.35 37.55	37.82 38.11	38.90 39.08	40.11 40.10	40.51 40.64	40.78 40.91	41.52 41.52	42.33 42.30	45.48 45.39	48.33 48.06	52.07 52.13	57.78 57.72

Table 8. Comparison of speeds of sound for saturated liquid

T, K	P, BAR	MOL/L	M/SEC	CALCD	PCNT
94.05	0.178	27.857	1509.0	1543.3	-2.27
94.36	0.185	27.841	1507.0	1540.1	-2.20
96.17	0.228	27.639	1489.8	1521.2	-2.11
98.50	0.294	27.432	1466.6	1496.4	-2.03
101.79	0.414	27.211	1433.9	1460.7	-1.87
105.45	0.590	26.833	1400.0	1421.0	-1.50
109.09	0.818	26.572	1363.8	1381.7	-1.31
112.79	1.113	26.238	1326.8	1342.3	-1.17
116.07	1.439	25.937	1293.3	1307.7	-1.11
119.78	1.889	25.538	1256.0	1268.6	-1.01
123.81	2.491	25.139	1214.5	1226.1	-0.96
127.96	3.250	24.737	1170.3	1181.7	-0.98
131.97	4.135	24.375	1127.2	1138.0	-0.95
136.17	5.240	23.929	1081.0	1090.9	-0.91
140.23	6.499	23.481	1035.3	1044.0	-0.84
144.49	8.043	22.932	986.7	993.6	-0.70
149.01	9.955	22.448	933.3	938.9	-0.60
153.78	12.306	21.839	875.7	880.0	-0.49
158.02	14.709	21.253	822.2	826.8	-0.56
162.81	17.810	20.552	759.1	765.2	-0.80
167.50	21.275	19.839	694.3	702.2	-1.14
172.02	25.051	18.337	628.2	636.8	-1.37
176.44	29.195	18.035	558.1	562.8	-0.84
179.47	32.313	17.360	506.0	509.6	-0.70
182.51	35.686	16.508	449.0	451.6	-0.58
185.93	39.800	15.232	374.3	378.6	-1.14
187.55	41.878	14.540	331.5	339.0	-2.27
189.60	44.640	13.156	273.0	276.5	-1.27

Table 9. Comparison of speeds of sound, $W(\rho, T)$

T, K	P, BAR	MOL/L	M/SEC	CALCD	PCNT
111.33	1.125	26.372	1340.9	1357.9	-1.27
111.33	5.046	26.334	1345.0	1360.8	-1.18
111.33	9.808	26.421	1349.6	1364.3	-1.09
111.33	19.728	26.477	1358.7	1371.5	-0.94
111.33	29.374	26.530	1367.0	1378.3	-0.83
111.33	39.324	26.534	1376.6	1385.3	-0.63
111.33	49.132	26.636	1384.8	1391.9	-0.51
111.33	58.839	26.637	1393.1	1398.4	-0.38
111.33	68.151	26.736	1402.1	1404.5	-0.17
111.33	75.690	26.775	1408.5	1409.3	-0.06
125.09	2.807	25.074	1200.6	1212.6	-1.00
125.09	5.299	25.033	1202.9	1215.2	-1.02
125.09	10.102	25.129	1209.0	1220.1	-0.92
125.09	19.910	25.202	1220.8	1229.9	-0.75
125.09	29.577	25.273	1232.1	1239.4	-0.59
125.09	39.172	25.341	1242.7	1248.5	-0.47
125.09	48.636	25.407	1253.8	1257.3	-0.28
125.09	59.235	25.479	1265.1	1266.9	-0.14
125.09	68.465	25.541	1275.0	1275.0	0.00
125.09	77.959	25.603	1285.0	1283.2	0.14
125.09	87.747	25.636	1295.0	1291.4	0.27
125.09	97.880	25.730	1305.2	1299.8	0.41
140.02	6.475	23.516	1038.5	1046.6	-0.78
140.02	11.115	23.557	1045.0	1053.5	-0.81
140.02	19.880	23.632	1059.5	1066.2	-0.63
140.02	29.810	23.755	1075.0	1080.1	-0.47
140.02	39.344	23.851	1089.1	1092.8	-0.34
140.02	49.305	23.947	1104.0	1105.7	-0.15
140.02	58.991	24.038	1117.9	1117.8	0.01
140.02	68.354	24.124	1130.6	1129.1	0.14
140.02	78.932	24.218	1145.3	1141.4	0.34
140.02	88.355	24.239	1157.0	1152.0	0.43
140.02	97.880	24.378	1169.5	1162.5	0.60
140.02	106.087	24.446	1178.7	1171.3	0.63
140.02	110.343	24.480	1183.9	1175.7	0.69
155.44	13.579	21.627	854.0	860.4	-0.75
155.44	21.451	21.757	872.9	878.6	-0.66
155.44	29.151	21.838	891.3	895.6	-0.48
155.44	39.811	22.058	915.1	917.6	-0.27
155.44	49.528	22.213	935.5	936.3	-0.08
155.44	59.295	22.352	954.5	954.0	0.05
155.44	67.371	22.451	970.5	968.0	0.26
155.44	78.426	22.503	990.5	986.1	0.44
155.44	88.761	22.730	1007.7	1002.3	0.54
155.44	97.779	22.836	1022.5	1015.8	0.66
155.44	108.418	22.957	1038.6	1031.0	0.73
155.44	118.145	23.053	1053.6	1044.4	0.87
155.44	127.771	23.154	1068.6	1057.2	1.06
155.44	137.701	23.255	1080.9	1070.0	1.01
155.44	147.732	23.354	1094.9	1082.4	1.14
155.44	155.939	23.443	1105.5	1092.3	1.20

Table 9. Comparison of speeds of sound, $W(\rho, T)$ (continued)

T,K	P,BAR	MOL/L	M/SEC	CALCD	PCNT
170.75	24.024	19.239	646.8	656.2	-1.45
170.75	30.012	19.458	672.2	683.2	-1.64
170.75	39.567	19.735	710.2	720.4	-1.44
170.75	49.153	20.058	743.7	752.7	-1.22
170.75	62.001	20.378	782.7	790.5	-1.00
170.75	78.426	20.732	826.0	832.4	-0.77
170.75	88.761	20.930	849.9	856.0	-0.71
170.75	98.285	21.110	871.1	876.2	-0.58
170.75	106.898	21.245	890.3	893.4	-0.35
170.75	116.726	21.412	909.0	912.0	-0.33
170.75	126.960	21.556	927.0	930.4	-0.36
170.75	135.775	21.682	944.1	945.4	-0.14
170.75	146.111	21.823	961.4	962.2	-0.09
170.75	156.142	21.954	977.9	977.8	0.01
170.75	168.706	22.110	995.3	996.5	-0.12
170.75	182.892	22.278	1015.6	1016.4	-0.08
185.91	45.211	16.248	450.0	456.4	-1.41
185.91	50.034	16.756	494.8	499.8	-1.00
185.91	59.336	17.440	556.2	561.2	-0.90
185.91	68.860	17.950	603.0	609.3	-1.05
185.91	78.932	18.379	646.6	651.2	-0.72
185.91	89.267	18.747	685.6	688.1	-0.37
185.91	98.083	19.021	707.4	716.0	-1.22
185.91	108.114	19.298	733.7	744.8	-1.52
185.91	118.246	19.551	766.8	771.4	-0.60
185.91	132.533	19.870	800.6	805.3	-0.59
185.91	148.137	20.180	836.3	838.8	-0.30
185.91	158.878	20.376	856.1	860.1	-0.46
185.91	173.570	20.624	884.2	887.2	-0.34
185.91	183.398	20.778	901.8	904.3	-0.28
190.03	45.525	13.157	264.2	285.9	-8.20
190.03	47.754	14.410	340.2	357.2	-5.00
190.03	52.942	15.514	415.6	430.2	-3.51
190.03	59.528	16.286	482.3	488.1	-1.20
190.03	68.405	16.930	539.8	544.9	-0.95
190.03	77.919	17.524	590.9	592.6	-0.29
190.03	88.558	18.005	634.5	636.7	-0.35
190.03	101.021	18.453	677.7	680.5	-0.42
190.03	113.484	18.848	715.7	718.4	-0.38
190.03	125.744	19.177	748.8	751.6	-0.38
190.03	137.903	19.468	778.2	781.4	-0.41
190.03	150.366	19.737	807.2	809.4	-0.27
190.03	163.336	19.992	833.3	836.2	-0.35
190.03	175.090	20.235	855.1	858.9	-0.45
190.03	187.350	20.413	878.5	881.2	-0.30
190.03	199.712	20.609	900.5	902.3	-0.20

Table 10. Calculated P(T) isochores

The following pages give P(T) along isochores, as computed by the equation of state (6). The third column DP/DD is the isotherm slope ($\partial P/\partial \rho$) in units of the bar and mol/l. The last two columns give the isochore slopes and curvatures $\partial P/\partial T$, $\partial^2 P/\partial T^2$, in units of the bar and K.

These tables show that the isochore curvatures are qualitatively consistent with a maximum in the specific heat $C_v(\rho, T)$ near the critical point.

METHANE ISOCHORE 1.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
154.0	10.642	8.511	0.0962	-0.00019
162.0	11.406	9.334	0.0949	-0.00014
170.0	12.161	10.235	0.0939	-0.00011
178.0	12.909	11.059	0.0931	-0.00009
186.0	13.651	11.890	0.0925	-0.00007
194.0	14.389	12.702	0.0920	-0.00006
202.0	15.123	13.505	0.0916	-0.00005
210.0	15.854	14.302	0.0912	-0.00004
218.0	16.583	15.093	0.0909	-0.00004
226.0	17.308	15.879	0.0906	-0.00003
234.0	18.032	16.651	0.0904	-0.00003
242.0	18.754	17.439	0.0901	-0.00003
250.0	19.475	18.215	0.0900	-0.00002
258.0	20.194	18.997	0.0898	-0.00002
266.0	20.911	19.757	0.0896	-0.00002
274.0	21.628	20.524	0.0895	-0.00002
282.0	22.343	21.299	0.0893	-0.00002
290.0	23.057	22.052	0.0892	-0.00002
298.0	23.770	22.813	0.0891	-0.00001
306.0	24.483	23.573	0.0890	-0.00001
314.0	25.194	24.330	0.0889	-0.00001
322.0	25.905	25.097	0.0888	-0.00001
330.0	26.615	25.841	0.0887	-0.00001
338.0	27.324	26.595	0.0886	-0.00001
346.0	28.032	27.347	0.0885	-0.00001
354.0	28.740	28.097	0.0884	-0.00001
362.0	29.447	28.846	0.0884	-0.00001
370.0	30.154	29.595	0.0883	-0.00001
378.0	30.860	30.341	0.0882	-0.00001
386.0	31.565	31.097	0.0881	-0.00001
394.0	32.270	31.832	0.0881	-0.00001

METHANE ISOCHORE 2.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
170.0	20.618	6.754	0.2115	-0.00065
178.0	22.292	7.735	0.2072	-0.00045
186.0	23.936	8.758	0.2040	-0.00034
194.0	25.558	9.724	0.2016	-0.00027
202.0	27.163	10.652	0.1997	-0.00022
210.0	28.754	11.554	0.1981	-0.00018
218.0	30.334	12.434	0.1968	-0.00015
226.0	31.904	13.315	0.1957	-0.00013
234.0	33.466	14.238	0.1948	-0.00011
242.0	35.021	15.174	0.1939	-0.00010
250.0	36.570	16.054	0.1932	-0.00009
258.0	38.112	16.928	0.1925	-0.00008
266.0	39.650	17.798	0.1919	-0.00007
274.0	41.184	18.654	0.1914	-0.00007
282.0	42.713	19.526	0.1909	-0.00006
290.0	44.238	20.395	0.1904	-0.00006
298.0	45.760	21.240	0.1900	-0.00005
306.0	47.278	22.093	0.1896	-0.00005
314.0	48.793	22.942	0.1892	-0.00005
322.0	50.305	23.799	0.1888	-0.00004
330.0	51.815	24.653	0.1885	-0.00004
338.0	53.321	25.475	0.1882	-0.00004
346.0	54.825	26.314	0.1878	-0.00004
354.0	56.327	27.152	0.1875	-0.00004
362.0	57.826	27.996	0.1872	-0.00004
370.0	59.322	28.819	0.1869	-0.00004
378.0	60.817	29.650	0.1867	-0.00003
386.0	62.309	30.478	0.1864	-0.00003
394.0	63.799	31.305	0.1861	-0.00003

METHANE ISDCHORE 3.0 MOL/L

T,K	P,BAR	DP/JO	DP/DT	D2P/DT2
178.0	28.631	4.950	0.3440	-0.00149
186.0	31.343	6.114	0.3345	-0.00095
194.0	33.992	7.210	0.3281	-0.00066
202.0	36.597	8.271	0.3234	-0.00052
210.0	39.169	9.308	0.3197	-0.00041
218.0	41.715	10.327	0.3168	-0.00033
226.0	44.239	11.333	0.3144	-0.00028
234.0	46.745	12.328	0.3123	-0.00024
242.0	49.236	13.314	0.3105	-0.00020
250.0	51.715	14.292	0.3090	-0.00018
258.0	54.181	15.254	0.3077	-0.00016
266.0	56.637	16.200	0.3064	-0.00014
274.0	59.085	17.131	0.3053	-0.00013
282.0	61.523	18.148	0.3043	-0.00012
290.0	63.954	19.151	0.3034	-0.00011
298.0	66.378	20.049	0.3025	-0.00011
306.0	68.795	20.934	0.3017	-0.00010
314.0	71.205	21.936	0.3009	-0.00009
322.0	73.610	22.874	0.3002	-0.00009
330.0	76.009	23.819	0.2995	-0.00009
338.0	78.402	24.741	0.2988	-0.00008
346.0	80.790	25.670	0.2982	-0.00008
354.0	83.173	26.596	0.2975	-0.00008
362.0	85.551	27.520	0.2969	-0.00008
370.0	87.923	28.440	0.2963	-0.00007
378.0	90.292	29.358	0.2957	-0.00007
386.0	92.655	30.273	0.2952	-0.00007
394.0	95.014	31.135	0.2946	-0.00007

METHANE ISDCHORE 4.0 MOL/L

T,K	P,BAR	DP/JO	DP/DT	D2P/DT2
186.0	36.300	3.872	0.4841	-0.00227
194.0	40.112	5.099	0.4700	-0.00137
202.0	43.834	6.258	0.4609	-0.00095
210.0	47.493	7.433	0.4543	-0.00071
218.0	51.107	8.517	0.4493	-0.00056
226.0	54.684	9.616	0.4452	-0.00045
234.0	58.232	10.733	0.4419	-0.00038
242.0	61.756	11.732	0.4391	-0.00032
250.0	65.260	12.753	0.4367	-0.00028
258.0	68.745	13.918	0.4346	-0.00025
266.0	72.215	14.978	0.4328	-0.00022
274.0	75.670	16.033	0.4311	-0.00020
282.0	79.112	17.134	0.4295	-0.00019
290.0	82.543	18.131	0.4281	-0.00017
298.0	85.962	19.174	0.4268	-0.00016
306.0	89.371	20.214	0.4255	-0.00015
314.0	92.770	21.250	0.4243	-0.00015
322.0	96.160	22.293	0.4231	-0.00014
330.0	99.541	23.312	0.4220	-0.00014
338.0	102.913	24.338	0.4210	-0.00013
346.0	106.276	25.351	0.4199	-0.00013
354.0	109.631	26.331	0.4189	-0.00013
362.0	112.978	27.398	0.4179	-0.00012
370.0	116.318	28.411	0.4169	-0.00012
378.0	119.649	29.421	0.4159	-0.00012
386.0	122.973	30.428	0.4150	-0.00012
394.0	126.289	31.432	0.4141	-0.00012

METHANE ISOCHORE 5.0 MOL/L

T, K	P, BAR	DP/DD	DF/DT	D2P/DT2
186.0	39.236	2.076	0.6545	-0.00589
190.0	41.815	2.772	0.6366	-0.00348
194.0	44.337	3.426	0.6250	-0.00245
198.0	46.819	4.058	0.6164	-0.00187
202.0	49.271	4.677	0.6098	-0.00149
206.0	51.699	5.288	0.6043	-0.00123
210.0	54.107	5.881	0.5998	-0.00104
214.0	56.498	6.450	0.5960	-0.00089
218.0	58.875	7.005	0.5926	-0.00076
222.0	61.240	7.577	0.5897	-0.00069
226.0	63.593	8.157	0.5871	-0.00061
230.0	65.937	8.754	0.5848	-0.00055
234.0	68.272	9.339	0.5827	-0.00050
238.0	70.599	10.023	0.5808	-0.00046
242.0	72.919	10.696	0.5791	-0.00042
246.0	75.232	11.187	0.5775	-0.00039
250.0	77.539	11.758	0.5760	-0.00036
254.0	79.840	12.347	0.5746	-0.00034
258.0	82.135	12.925	0.5733	-0.00032
262.0	84.426	13.513	0.5720	-0.00030
266.0	86.712	14.079	0.5709	-0.00028
270.0	88.993	14.655	0.5697	-0.00027
274.0	91.270	15.230	0.5687	-0.00026
278.0	93.542	15.805	0.5677	-0.00025
282.0	95.811	16.378	0.5667	-0.00024
286.0	98.076	16.951	0.5657	-0.00023
290.0	100.337	17.524	0.5648	-0.00023
294.0	102.594	18.095	0.5639	-0.00022
298.0	104.848	18.656	0.5631	-0.00021
302.0	107.099	19.236	0.5622	-0.00021
306.0	109.346	19.805	0.5614	-0.00020
310.0	111.590	20.374	0.5606	-0.00020
314.0	113.831	20.942	0.5598	-0.00020
318.0	116.069	21.509	0.5590	-0.00019
322.0	118.303	22.075	0.5582	-0.00019
326.0	120.535	22.641	0.5575	-0.00019
330.0	122.763	23.205	0.5567	-0.00019
334.0	124.989	23.759	0.5560	-0.00018
338.0	127.211	24.333	0.5553	-0.00018
342.0	129.431	24.895	0.5545	-0.00018
346.0	131.647	25.457	0.5538	-0.00018
350.0	133.861	26.017	0.5531	-0.00018
354.0	136.072	26.577	0.5524	-0.00018
358.0	138.280	27.136	0.5517	-0.00018
362.0	140.486	27.595	0.5510	-0.00018
366.0	142.688	28.252	0.5503	-0.00017
370.0	144.888	28.809	0.5496	-0.00017
374.0	147.085	29.354	0.5489	-0.00017
378.0	149.279	29.919	0.5482	-0.00017
382.0	151.470	30.473	0.5475	-0.00017
386.0	153.659	31.026	0.5468	-0.00017
390.0	155.845	31.578	0.5461	-0.00017
394.0	158.028	32.129	0.5455	-0.00017
398.0	160.208	32.630	0.5448	-0.00017

METHANE ISOCHORE 6.0 MOL/L

T, K	P, BAR	DP/DO	DP/OT	DP/DT2
190.0	43.917	1.514	0.8104	-0.00727
194.0	47.112	2.134	0.7832	-0.00396
198.0	50.241	2.853	0.7753	-0.00268
202.0	53.327	3.510	0.7670	-0.00200
206.0	56.380	4.139	0.7530	-0.00157
210.0	59.408	4.774	0.7543	-0.00128
214.0	62.416	5.417	0.7496	-0.00107
218.0	65.406	6.038	0.7456	-0.00091
222.0	68.382	6.658	0.7422	-0.00079
226.0	71.345	7.237	0.7393	-0.00070
230.0	74.296	7.826	0.7366	-0.00062
234.0	77.238	8.454	0.7343	-0.00056
238.0	80.171	9.132	0.7322	-0.00051
242.0	83.096	9.810	0.7302	-0.00046
246.0	86.013	10.438	0.7285	-0.00043
250.0	88.924	11.066	0.7268	-0.00040
254.0	91.828	11.694	0.7253	-0.00037
258.0	94.726	12.322	0.7238	-0.00035
262.0	97.619	12.949	0.7225	-0.00033
266.0	100.506	13.576	0.7212	-0.00032
270.0	103.388	14.204	0.7200	-0.00030
274.0	106.266	14.831	0.7188	-0.00029
278.0	109.138	15.457	0.7176	-0.00028
282.0	112.007	16.084	0.7165	-0.00027
286.0	114.871	16.710	0.7154	-0.00027
290.0	117.730	17.335	0.7144	-0.00026
294.0	120.586	17.961	0.7134	-0.00026
298.0	123.437	18.586	0.7123	-0.00025
302.0	126.285	19.210	0.7113	-0.00025
306.0	129.128	19.834	0.7104	-0.00024
310.0	131.967	20.458	0.7094	-0.00024
314.0	134.803	21.081	0.7084	-0.00024
318.0	137.635	21.703	0.7075	-0.00024
322.0	140.463	22.325	0.7065	-0.00024
326.0	143.287	22.946	0.7056	-0.00023
330.0	146.106	23.566	0.7047	-0.00023
334.0	148.925	24.186	0.7037	-0.00023
338.0	151.738	24.805	0.7028	-0.00023
342.0	154.547	25.423	0.7019	-0.00023
346.0	157.353	26.040	0.7009	-0.00023
350.0	160.155	26.656	0.7000	-0.00023
354.0	162.953	27.272	0.6991	-0.00023
358.0	165.747	27.887	0.6982	-0.00023
362.0	168.538	28.501	0.6973	-0.00023
366.0	171.325	29.114	0.6963	-0.00023
370.0	174.109	29.726	0.6954	-0.00023
374.0	176.889	30.337	0.6945	-0.00023
378.0	179.665	30.947	0.6936	-0.00023
382.0	182.437	31.556	0.6927	-0.00023
386.0	185.206	32.165	0.6917	-0.00023
390.0	187.971	32.772	0.6908	-0.00023
394.0	190.733	33.378	0.6899	-0.00023
398.0	193.490	33.983	0.6890	-0.00023

METHANE ISOCHORE 7.0 MOL/L

T,K	P,BAR	DP/DD	DF/DT	D2P/DT2
190.0	44.952	0.523	0.9975	-0.001927
194.0	48.847	1.329	0.9580	-0.00568
198.0	52.642	1.338	0.9410	-0.00326
202.0	56.383	2.551	0.9332	-0.00223
206.0	60.088	3.324	0.9225	-0.00167
210.0	63.765	3.938	0.9166	-0.00131
214.0	67.422	4.654	0.9119	-0.00106
218.0	71.061	5.322	0.9080	-0.00089
222.0	74.687	5.333	0.9047	-0.00076
226.0	78.300	6.555	0.9019	-0.00066
230.0	81.903	7.339	0.8994	-0.00058
234.0	85.496	8.015	0.8973	-0.00052
238.0	89.081	8.533	0.8953	-0.00047
242.0	92.659	9.372	0.8935	-0.00043
246.0	96.229	10.052	0.8919	-0.00039
250.0	99.794	10.733	0.8904	-0.00037
254.0	103.352	11.415	0.8889	-0.00035
258.0	106.905	12.038	0.8876	-0.00033
262.0	110.453	12.732	0.8863	-0.00032
266.0	113.995	13.457	0.8850	-0.00031
270.0	117.533	14.152	0.8838	-0.00030
274.0	121.066	14.838	0.8827	-0.00029
278.0	124.595	15.523	0.8815	-0.00028
282.0	128.118	16.209	0.8804	-0.00028
286.0	131.638	16.836	0.8793	-0.00028
290.0	135.153	17.532	0.8782	-0.00027
294.0	138.663	18.258	0.8771	-0.00027
298.0	142.169	18.954	0.8760	-0.00027
302.0	145.671	19.640	0.8749	-0.00027
306.0	149.169	20.326	0.8739	-0.00027
310.0	152.662	21.011	0.8728	-0.00027
314.0	156.151	21.636	0.8717	-0.00027
318.0	159.636	22.331	0.8706	-0.00027
322.0	163.116	23.054	0.8695	-0.00027
326.0	166.592	23.748	0.8684	-0.00027
330.0	170.063	24.431	0.8673	-0.00028
334.0	173.530	25.113	0.8662	-0.00028
338.0	176.993	25.734	0.8651	-0.00028
342.0	180.451	26.475	0.8640	-0.00028
346.0	183.904	27.155	0.8628	-0.00028
350.0	187.354	27.834	0.8617	-0.00028
354.0	190.798	28.512	0.8606	-0.00029
358.0	194.238	29.139	0.8594	-0.00029
362.0	197.673	29.856	0.8583	-0.00029
366.0	201.104	30.541	0.8571	-0.00029
370.0	204.530	31.215	0.8559	-0.00029
374.0	207.952	31.338	0.8548	-0.00029
378.0	211.368	32.551	0.8536	-0.00030
382.0	214.780	33.232	0.8524	-0.00030
386.0	218.188	33.902	0.8512	-0.00030
390.0	221.590	34.570	0.8500	-0.00030
394.0	224.988	35.238	0.8488	-0.00030
398.0	228.381	35.914	0.8476	-0.00030

METHANE ISOCHORE 8.0 MDL/L

T,K	P,BAR	DP/JO	DP/DT	D2P/DT2
194.0	49.865	0.755	1.1253	-0.00635
198.0	54.327	1.421	1.1080	-0.00302
202.0	58.739	2.100	1.0984	-0.00190
206.0	63.119	2.730	1.0921	-0.00134
210.0	67.478	3.430	1.0874	-0.00101
214.0	71.820	4.137	1.0839	-0.00079
218.0	76.150	4.911	1.0810	-0.00064
222.0	80.469	5.631	1.0787	-0.00054
226.0	84.780	6.355	1.0767	-0.00046
230.0	89.083	7.085	1.0750	-0.00040
234.0	93.380	7.818	1.0735	-0.00036
238.0	97.671	8.554	1.0721	-0.00033
242.0	101.957	9.234	1.0708	-0.00030
246.0	106.237	10.036	1.0697	-0.00028
250.0	110.514	10.731	1.0686	-0.00027
254.0	114.786	11.528	1.0675	-0.00026
258.0	119.054	12.276	1.0665	-0.00026
262.0	123.318	13.026	1.0654	-0.00025
266.0	127.577	13.778	1.0644	-0.00025
270.0	131.833	14.531	1.0634	-0.00025
274.0	136.085	15.234	1.0624	-0.00025
278.0	140.332	16.039	1.0614	-0.00025
282.0	144.576	16.794	1.0604	-0.00026
286.0	148.815	17.550	1.0593	-0.00026
290.0	153.051	18.316	1.0583	-0.00027
294.0	157.282	19.052	1.0572	-0.00027
298.0	161.508	19.819	1.0561	-0.00028
302.0	165.730	20.575	1.0550	-0.00028
306.0	169.948	21.332	1.0539	-0.00029
310.0	174.161	22.088	1.0527	-0.00029
314.0	178.370	22.844	1.0515	-0.00030
318.0	182.574	23.599	1.0503	-0.00030
322.0	186.773	24.354	1.0491	-0.00031
326.0	190.967	25.119	1.0479	-0.00031
330.0	195.156	25.853	1.0466	-0.00032
334.0	199.340	26.616	1.0453	-0.00032
338.0	203.518	27.359	1.0440	-0.00033
342.0	207.692	28.120	1.0427	-0.00033
346.0	211.860	28.871	1.0414	-0.00034
350.0	216.023	29.621	1.0400	-0.00034
354.0	220.180	30.359	1.0386	-0.00035
358.0	224.332	31.117	1.0372	-0.00035
362.0	228.478	31.864	1.0358	-0.00036
366.0	232.618	32.619	1.0344	-0.00036
370.0	236.753	33.354	1.0330	-0.00036
374.0	240.882	34.037	1.0315	-0.00037
378.0	245.005	34.839	1.0300	-0.00037
382.0	249.122	35.530	1.0285	-0.00037
386.0	253.233	36.319	1.0270	-0.00038
390.0	257.338	37.157	1.0255	-0.00038
394.0	261.438	37.733	1.0240	-0.00038
398.0	265.531	38.528	1.0225	-0.00038

METHANE ISOCHORE 9.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	O2P/DT2
194.0	50.476	0.532	1.2889	-0.00395
198.0	55.609	1.214	1.2790	-0.00158
202.0	60.715	1.929	1.2744	-0.00086
206.0	65.806	2.556	1.2717	-0.00053
210.0	70.889	3.419	1.2699	-0.00035
214.0	75.966	4.196	1.2687	-0.00024
218.0	81.039	4.953	1.2679	-0.00018
222.0	86.110	5.748	1.2673	-0.00014
226.0	91.178	6.542	1.2668	-0.00011
230.0	96.244	7.342	1.2664	-0.00010
234.0	101.309	8.148	1.2660	-0.00009
238.0	106.372	8.958	1.2656	-0.00009
242.0	111.434	9.773	1.2652	-0.00010
246.0	116.494	10.532	1.2648	-0.00010
250.0	121.552	11.414	1.2644	-0.00011
254.0	126.609	12.239	1.2639	-0.00012
258.0	131.664	13.057	1.2634	-0.00014
262.0	136.716	13.836	1.2628	-0.00015
266.0	141.766	14.728	1.2622	-0.00016
270.0	146.814	15.551	1.2615	-0.00018
274.0	151.858	16.395	1.2608	-0.00019
278.0	156.900	17.231	1.2600	-0.00020
282.0	161.938	18.058	1.2591	-0.00022
286.0	166.973	18.905	1.2582	-0.00023
290.0	172.004	19.742	1.2573	-0.00025
294.0	177.031	20.580	1.2563	-0.00026
298.0	182.054	21.419	1.2552	-0.00027
302.0	187.073	22.257	1.2541	-0.00029
306.0	192.087	23.095	1.2529	-0.00030
310.0	197.096	23.933	1.2517	-0.00031
314.0	202.100	24.771	1.2504	-0.00032
318.0	207.100	25.608	1.2491	-0.00033
322.0	212.093	26.444	1.2478	-0.00034
326.0	217.082	27.280	1.2464	-0.00036
330.0	222.064	28.115	1.2449	-0.00037
334.0	227.041	28.949	1.2434	-0.00038
338.0	232.012	29.783	1.2419	-0.00038
342.0	236.976	30.615	1.2404	-0.00039
346.0	241.935	31.446	1.2388	-0.00040
350.0	246.887	32.277	1.2372	-0.00041
354.0	251.832	33.105	1.2355	-0.00042
358.0	256.771	33.933	1.2338	-0.00043
362.0	261.702	34.759	1.2321	-0.00043
366.0	266.627	35.584	1.2303	-0.00044
370.0	271.545	36.408	1.2286	-0.00045
374.0	276.456	37.230	1.2268	-0.00045
378.0	281.359	38.050	1.2249	-0.00046
382.0	286.255	38.859	1.2231	-0.00046
386.0	291.144	39.686	1.2212	-0.00047
390.0	296.025	40.502	1.2193	-0.00047
394.0	300.899	41.316	1.2174	-0.00048
398.0	305.765	42.128	1.2155	-0.00048

METHANE ISOCHORE 10.0 MOL/L

T,K	P,BAK	DP/DT	DF/DT	D2P/DT2
194.0	51.007	0.540	1.4532	0.00085
198.0	56.846	1.275	1.4614	0.00077
202.0	62.698	2.356	1.4644	0.00070
206.0	68.501	2.935	1.4670	0.00063
210.0	74.434	3.536	1.4695	0.00057
214.0	80.316	4.543	1.4716	0.00051
218.0	86.206	5.434	1.4735	0.00045
222.0	92.104	6.276	1.4752	0.00040
226.0	98.008	7.157	1.4767	0.00035
230.0	103.917	8.047	1.4780	0.00030
234.0	109.831	8.943	1.4791	0.00025
238.0	115.750	9.845	1.4800	0.00020
242.0	121.671	10.752	1.4807	0.00016
246.0	127.595	11.554	1.4813	0.00012
250.0	133.521	12.579	1.4817	0.00008
254.0	139.448	13.438	1.4819	0.00004
258.0	145.376	14.420	1.4820	0.00001
262.0	151.305	15.344	1.4820	-0.00003
266.0	157.232	16.270	1.4818	-0.00006
270.0	163.159	17.137	1.4815	-0.00009
274.0	169.084	18.127	1.4811	-0.00012
278.0	175.008	19.057	1.4806	-0.00015
282.0	180.929	19.938	1.4799	-0.00018
286.0	186.847	20.920	1.4792	-0.00020
290.0	192.762	21.852	1.4783	-0.00023
294.0	198.673	22.734	1.4773	-0.00025
298.0	204.580	23.717	1.4763	-0.00028
302.0	210.483	24.649	1.4751	-0.00030
306.0	216.381	25.581	1.4739	-0.00032
310.0	222.274	26.512	1.4726	-0.00034
314.0	228.162	27.443	1.4712	-0.00036
318.0	234.043	28.373	1.4697	-0.00038
322.0	239.919	29.313	1.4682	-0.00039
326.0	245.789	30.231	1.4666	-0.00041
330.0	251.652	31.158	1.4649	-0.00043
334.0	257.508	32.034	1.4631	-0.00044
338.0	263.357	33.039	1.4613	-0.00046
342.0	269.198	33.933	1.4595	-0.00047
346.0	275.033	34.855	1.4576	-0.00048
350.0	280.859	35.776	1.4556	-0.00050
354.0	286.677	36.635	1.4536	-0.00051
358.0	292.488	37.612	1.4515	-0.00052
362.0	298.290	38.528	1.4494	-0.00053
366.0	304.083	39.442	1.4473	-0.00054
370.0	309.808	40.354	1.4451	-0.00055
374.0	315.644	41.254	1.4429	-0.00056
378.0	321.411	42.173	1.4406	-0.00057
382.0	327.169	43.079	1.4383	-0.00058
386.0	332.918	43.933	1.4360	-0.00058
390.0	338.657	44.836	1.4337	-0.00059
394.0	344.387	45.736	1.4313	-0.00060
398.0	350.107	46.634	1.4289	-0.00060

METHANE ISOCHORE 11.0 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
194.0	51.571	0.531	1.6420	0.00707
198.0	58.183	1.417	1.6620	0.00376
202.0	64.858	2.237	1.6746	0.00266
206.0	71.576	3.132	1.6840	0.00207
210.0	78.327	4.122	1.6915	0.00169
214.0	85.106	5.071	1.6976	0.00141
218.0	91.907	6.036	1.7029	0.00120
222.0	98.728	7.013	1.7073	0.00102
226.0	105.565	8.001	1.7111	0.00088
230.0	112.415	8.998	1.7143	0.00075
234.0	119.278	10.002	1.7171	0.00064
238.0	126.152	11.013	1.7194	0.00054
242.0	133.033	12.029	1.7214	0.00045
246.0	139.922	13.050	1.7230	0.00036
250.0	146.817	14.075	1.7243	0.00029
254.0	153.716	15.113	1.7253	0.00022
258.0	160.619	16.134	1.7261	0.00016
262.0	167.525	17.157	1.7266	0.00010
266.0	174.432	18.212	1.7269	0.00004
270.0	181.339	19.239	1.7269	-0.00001
274.0	188.247	20.277	1.7268	-0.00006
278.0	195.153	21.315	1.7265	-0.00010
282.0	202.058	22.355	1.7260	-0.00015
286.0	208.961	23.394	1.7253	-0.00019
290.0	215.861	24.434	1.7245	-0.00022
294.0	222.757	25.473	1.7235	-0.00026
298.0	229.649	26.512	1.7224	-0.00030
302.0	236.536	27.551	1.7212	-0.00033
306.0	243.418	28.539	1.7198	-0.00036
310.0	250.294	29.526	1.7183	-0.00039
314.0	257.164	30.522	1.7167	-0.00042
318.0	264.027	31.537	1.7150	-0.00044
322.0	270.884	32.730	1.7131	-0.00047
326.0	277.733	33.752	1.7112	-0.00049
330.0	284.573	34.733	1.7092	-0.00051
334.0	291.406	35.822	1.7071	-0.00053
338.0	298.230	36.849	1.7049	-0.00056
342.0	305.046	37.875	1.7027	-0.00057
346.0	311.852	38.838	1.7004	-0.00059
350.0	318.648	39.920	1.6979	-0.00061
354.0	325.435	40.939	1.6955	-0.00063
358.0	332.212	41.957	1.6929	-0.00064
362.0	338.979	42.972	1.6903	-0.00066
366.0	345.735	43.995	1.6877	-0.00067
370.0	352.480	44.935	1.6850	-0.00068
374.0	359.215	45.914	1.6822	-0.00070
378.0	365.938	47.009	1.6794	-0.00071
382.0	372.650	48.013	1.6766	-0.00072
386.0	379.351	49.013	1.6737	-0.00073
390.0	386.039	50.012	1.6708	-0.00074
394.0	392.716	51.017	1.6678	-0.00075
398.0	399.382	52.010	1.6648	-0.00076

METHANE ISOCHORE 12.0 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
194.0	52.289	0.913	1.8516	0.01322
198.0	59.779	1.355	1.8892	0.00599
202.0	67.384	2.857	1.9123	0.00481
206.0	75.068	3.932	1.9290	0.00365
210.0	82.811	4.952	1.9420	0.00292
214.0	90.601	6.042	1.9526	0.00239
218.0	98.430	7.137	1.9614	0.00200
222.0	106.290	8.245	1.9687	0.00169
226.0	114.178	9.353	1.9749	0.00143
230.0	122.089	10.430	1.9802	0.00121
234.0	130.019	11.524	1.9847	0.00103
238.0	137.965	12.754	1.9885	0.00087
242.0	145.926	13.309	1.9917	0.00073
246.0	153.898	15.058	1.9943	0.00060
250.0	161.880	16.211	1.9965	0.00049
254.0	169.869	17.356	1.9982	0.00038
258.0	177.865	18.524	1.9995	0.00029
262.0	185.865	19.633	2.0005	0.00020
266.0	193.866	20.844	2.0012	0.00012
270.0	201.874	22.036	2.0015	0.00005
274.0	209.880	23.158	2.0015	-0.00002
278.0	217.886	24.330	2.0013	-0.00009
282.0	225.890	25.433	2.0009	-0.00014
286.0	233.892	26.655	2.0002	-0.00020
290.0	241.891	27.816	1.9993	-0.00025
294.0	249.886	28.977	1.9982	-0.00030
298.0	257.876	30.137	1.9969	-0.00035
302.0	265.861	31.235	1.9954	-0.00039
306.0	273.839	32.452	1.9937	-0.00043
310.0	281.810	33.608	1.9919	-0.00047
314.0	289.774	34.761	1.9900	-0.00051
318.0	297.730	35.913	1.9879	-0.00054
322.0	305.677	37.063	1.9856	-0.00057
326.0	313.614	38.211	1.9833	-0.00061
330.0	321.543	39.357	1.9808	-0.00063
334.0	329.461	40.501	1.9782	-0.00066
338.0	337.368	41.642	1.9755	-0.00069
342.0	345.264	42.731	1.9727	-0.00071
346.0	353.149	43.917	1.9698	-0.00074
350.0	361.022	45.050	1.9668	-0.00076
354.0	368.884	46.131	1.9637	-0.00078
358.0	376.732	47.309	1.9606	-0.00080
362.0	384.568	48.434	1.9573	-0.00082
366.0	392.391	49.556	1.9540	-0.00083
370.0	400.200	50.675	1.9507	-0.00085
374.0	407.996	51.732	1.9472	-0.00087
378.0	415.778	52.935	1.9437	-0.00088
382.0	423.546	54.015	1.9402	-0.00089
386.0	431.299	55.122	1.9366	-0.00091
390.0	439.038	56.225	1.9329	-0.00092
394.0	446.763	57.326	1.9292	-0.00093
398.0	454.472	58.423	1.9255	-0.00094

METHANE ISOCHORE 13.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
190.0	45.342	0.0+2	1.9949	0.06151
194.0	53.601	1.830	2.1098	0.01596
198.0	62.145	3.031	2.1581	0.00936
202.0	70.844	4.136	2.1894	0.00559
206.0	79.650	5.413	2.2124	0.00303
210.0	88.537	6.648	2.2303	0.00400
214.0	97.488	7.837	2.2448	0.00327
218.0	106.492	9.159	2.2567	0.00271
222.0	115.539	10.430	2.2666	0.00227
226.0	124.623	11.716	2.2750	0.00191
230.0	133.737	12.995	2.2820	0.00161
234.0	142.877	14.236	2.2879	0.00136
238.0	152.039	15.531	2.2929	0.00114
242.0	161.219	16.830	2.2970	0.00094
246.0	170.414	18.131	2.3005	0.00077
250.0	179.622	19.433	2.3032	0.00062
254.0	188.839	20.738	2.3054	0.00048
258.0	198.064	22.033	2.3071	0.00036
262.0	207.295	23.338	2.3083	0.00025
266.0	216.530	24.704	2.3091	0.00014
270.0	225.768	26.009	2.3095	0.00005
274.0	235.006	27.314	2.3095	-0.00004
278.0	244.243	28.617	2.3091	-0.00012
282.0	253.478	29.919	2.3085	-0.00020
286.0	262.710	31.220	2.3076	-0.00027
290.0	271.938	32.520	2.3064	-0.00033
294.0	281.161	33.817	2.3049	-0.00040
298.0	290.377	35.112	2.3032	-0.00045
302.0	299.586	36.405	2.3013	-0.00051
306.0	308.787	37.696	2.2991	-0.00056
310.0	317.979	38.984	2.2968	-0.00061
314.0	327.161	40.270	2.2943	-0.00065
318.0	336.333	41.553	2.2916	-0.00069
322.0	345.494	42.832	2.2888	-0.00073
326.0	354.643	44.109	2.2858	-0.00077
330.0	363.780	45.383	2.2826	-0.00080
334.0	372.904	46.654	2.2793	-0.00084
338.0	382.015	47.921	2.2759	-0.00087
342.0	391.111	49.185	2.2724	-0.00090
346.0	400.193	50.445	2.2687	-0.00093
350.0	409.261	51.702	2.2650	-0.00095
354.0	418.313	52.956	2.2611	-0.00098
358.0	427.350	54.206	2.2571	-0.00100
362.0	436.370	55.452	2.2531	-0.00102
366.0	445.374	56.694	2.2490	-0.00104
370.0	454.362	57.933	2.2447	-0.00106
374.0	463.332	59.156	2.2405	-0.00108
378.0	472.285	60.379	2.2361	-0.00110
382.0	481.221	61.606	2.2317	-0.00112
386.0	490.139	62.849	2.2272	-0.00113
390.0	499.038	64.058	2.2226	-0.00114
394.0	507.919	65.233	2.2180	-0.00116
398.0	516.782	66.434	2.2134	-0.00117

METHANE ISOCHORE 14.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
190.0	46.636	2.106	2.3515	0.03018
194.0	56.229	3.530	2.4357	0.01528
198.0	66.078	5.035	2.4853	0.01014
202.0	76.092	6.478	2.5200	0.00747
206.0	86.227	7.927	2.5463	0.00580
210.0	96.455	9.332	2.5671	0.00465
214.0	106.758	10.843	2.5839	0.00380
218.0	117.123	12.309	2.5978	0.00315
222.0	127.537	13.778	2.6093	0.00262
226.0	137.994	15.251	2.6189	0.00219
230.0	148.486	16.726	2.6269	0.00183
234.0	159.008	18.202	2.6336	0.00152
238.0	169.553	19.679	2.6391	0.00125
242.0	180.119	21.157	2.6437	0.00102
246.0	190.702	22.634	2.6473	0.00082
250.0	201.297	24.110	2.6502	0.00063
254.0	211.902	25.586	2.6524	0.00047
258.0	222.515	27.050	2.6540	0.00032
262.0	233.133	28.532	2.6550	0.00019
266.0	243.755	30.012	2.6555	0.00006
270.0	254.377	31.470	2.6555	-0.00005
274.0	264.998	32.935	2.6551	-0.00015
278.0	275.617	34.398	2.6543	-0.00025
282.0	286.232	35.858	2.6531	-0.00034
286.0	296.842	37.315	2.6516	-0.00042
290.0	307.445	38.768	2.6498	-0.00050
294.0	318.040	40.218	2.6477	-0.00057
298.0	328.626	41.665	2.6452	-0.00063
302.0	339.201	43.108	2.6426	-0.00070
306.0	349.766	44.547	2.6397	-0.00076
310.0	360.318	45.982	2.6365	-0.00081
314.0	370.856	47.413	2.6332	-0.00086
318.0	381.384	48.841	2.6297	-0.00091
322.0	391.895	50.264	2.6259	-0.00096
326.0	402.391	51.683	2.6220	-0.00100
330.0	412.871	53.097	2.6179	-0.00104
334.0	423.334	54.508	2.6137	-0.00108
338.0	433.780	55.914	2.6093	-0.00111
342.0	444.209	57.315	2.6048	-0.00115
346.0	454.619	58.712	2.6002	-0.00118
350.0	465.010	60.104	2.5954	-0.00121
354.0	475.382	61.492	2.5905	-0.00124
358.0	485.734	62.875	2.5855	-0.00126
362.0	496.065	64.253	2.5804	-0.00129
366.0	506.377	65.627	2.5752	-0.00131
370.0	516.667	66.996	2.5699	-0.00133
374.0	526.936	68.350	2.5646	-0.00135
378.0	537.183	69.719	2.5591	-0.00137
382.0	547.409	71.073	2.5536	-0.00139
386.0	557.612	72.423	2.5480	-0.00141
390.0	567.793	73.757	2.5423	-0.00142
394.0	577.951	75.107	2.5366	-0.00144
398.0	588.085	76.442	2.5308	-0.00145

METHANE ISOCHORE 15.0 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
190.0	49.939	4.729	2.7734	0.01990
194.0	61.170	6.524	2.8376	0.01307
198.0	72.615	8.273	2.8822	0.00952
202.0	84.213	10.003	2.9155	0.00731
206.0	95.929	11.722	2.9416	0.00580
210.0	107.739	13.435	2.9624	0.00469
214.0	119.624	15.142	2.9794	0.00364
218.0	131.570	16.846	2.9934	0.00316
222.0	143.567	18.546	3.0049	0.00261
226.0	155.606	20.242	3.0144	0.00219
230.0	167.680	21.934	3.0222	0.00176
234.0	179.782	23.623	3.0285	0.00143
238.0	191.906	25.308	3.0337	0.00114
242.0	204.050	26.999	3.0377	0.00089
246.0	216.207	28.686	3.0408	0.00067
250.0	228.375	30.368	3.0431	0.00047
254.0	240.550	32.047	3.0446	0.00029
258.0	252.731	33.720	3.0454	0.00012
262.0	264.913	35.389	3.0456	-0.00002
266.0	277.094	36.933	3.0452	-0.00016
270.0	289.274	38.562	3.0443	-0.00028
274.0	301.449	40.277	3.0430	-0.00039
278.0	313.617	41.916	3.0412	-0.00050
282.0	325.778	43.550	3.0390	-0.00059
286.0	337.929	45.179	3.0365	-0.00068
290.0	350.069	46.813	3.0336	-0.00077
294.0	362.197	48.421	3.0303	-0.00084
298.0	374.311	50.034	3.0268	-0.00092
302.0	386.411	51.641	3.0230	-0.00098
306.0	398.495	53.243	3.0189	-0.00105
310.0	410.562	54.839	3.0146	-0.00111
314.0	422.612	56.430	3.0101	-0.00116
318.0	434.643	58.015	3.0053	-0.00122
322.0	446.654	59.595	3.0004	-0.00126
326.0	458.645	61.168	2.9952	-0.00131
330.0	470.616	62.736	2.9899	-0.00135
334.0	482.564	64.299	2.9844	-0.00139
338.0	494.491	65.855	2.9787	-0.00143
342.0	506.394	67.406	2.9729	-0.00147
346.0	518.274	68.951	2.9670	-0.00150
350.0	530.130	70.489	2.9609	-0.00153
354.0	541.961	72.022	2.9547	-0.00156
358.0	553.767	73.550	2.9484	-0.00159
362.0	565.548	75.071	2.9420	-0.00162
366.0	577.303	76.586	2.9354	-0.00164
370.0	589.031	78.096	2.9288	-0.00167
374.0	600.733	79.599	2.9221	-0.00169
378.0	612.408	81.097	2.9153	-0.00171
382.0	624.056	82.588	2.9085	-0.00173
386.0	635.676	84.074	2.9015	-0.00174
390.0	647.268	85.553	2.8945	-0.00176
394.0	658.832	87.027	2.8874	-0.00178
398.0	670.367	88.495	2.8803	-0.00179

METHANE ISOCHORE 16.0 MJ/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
130.0	43.674	0.770	3.2038	0.02046
130.0	56.632	8.971	3.2713	0.01397
194.0	69.618	11.037	3.3193	0.01031
199.0	83.171	13.155	3.3554	0.00793
202.0	96.651	15.131	3.3836	0.00626
206.0	110.232	17.235	3.4061	0.00502
210.0	123.894	19.210	3.4241	0.00406
214.0	137.621	21.179	3.4388	0.00330
218.0	151.401	23.146	3.4507	0.00267
222.0	165.224	25.131	3.4603	0.00216
226.0	179.081	27.044	3.4680	0.00172
230.0	192.966	28.977	3.4742	0.00134
234.0	206.872	30.931	3.4789	0.00102
238.0	220.795	32.815	3.4824	0.00074
242.0	234.730	34.720	3.4848	0.00049
246.0	248.672	36.617	3.4863	0.00027
250.0	262.619	38.535	3.4870	0.00007
254.0	276.567	40.394	3.4869	-0.00011
258.0	290.513	42.255	3.4861	-0.00027
262.0	304.455	44.118	3.4847	-0.00042
266.0	318.390	45.973	3.4827	-0.00056
270.0	332.316	47.820	3.4803	-0.00068
274.0	346.231	49.659	3.4773	-0.00079
278.0	360.134	51.490	3.4739	-0.00090
282.0	374.022	53.313	3.4701	-0.00100
286.0	387.894	55.129	3.4659	-0.00109
290.0	401.749	56.937	3.4614	-0.00117
294.0	415.585	58.737	3.4566	-0.00125
298.0	429.401	60.530	3.4514	-0.00132
302.0	443.196	62.315	3.4460	-0.00139
306.0	456.969	64.092	3.4403	-0.00146
310.0	470.719	65.862	3.4344	-0.00152
314.0	484.444	67.625	3.4282	-0.00157
318.0	498.144	69.380	3.4218	-0.00162
322.0	511.818	71.127	3.4152	-0.00167
326.0	525.465	72.867	3.4084	-0.00172
330.0	539.085	74.610	3.4014	-0.00176
334.0	552.676	76.325	3.3943	-0.00181
338.0	566.239	78.043	3.3870	-0.00184
342.0	579.772	79.753	3.3795	-0.00188
346.0	593.275	81.457	3.3720	-0.00191
350.0	606.748	83.152	3.3642	-0.00195
354.0	620.189	84.841	3.3564	-0.00198
358.0	633.598	86.522	3.3484	-0.00200
362.0	646.976	88.196	3.3404	-0.00203
366.0	660.321	89.863	3.3322	-0.00205
370.0	673.633	91.522	3.3239	-0.00208
374.0	686.912	93.175	3.3156	-0.00210

METHANE ISOCORE 17.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
182.0	38.182	10.252	3.7459	0.01746
186.0	53.291	12.872	3.8051	0.01255
190.0	68.603	15.310	3.8487	0.00943
194.0	84.067	17.819	3.8819	0.00729
198.0	99.648	20.217	3.9077	0.00571
202.0	115.321	22.556	3.9281	0.00452
206.0	131.067	24.873	3.9442	0.00358
210.0	146.870	27.162	3.9569	0.00282
214.0	162.719	29.426	3.9670	0.00220
218.0	178.603	31.559	3.9747	0.00168
222.0	194.514	33.833	3.9805	0.00124
226.0	210.445	36.038	3.9847	0.00087
230.0	226.390	38.237	3.9875	0.00054
234.0	242.343	40.439	3.9891	0.00026
238.0	258.301	42.617	3.9897	0.00001
242.0	274.260	44.750	3.9892	-0.00021
246.0	290.214	46.830	3.9880	-0.00041
250.0	306.162	49.007	3.9860	-0.00059
254.0	322.101	51.111	3.9833	-0.00075
258.0	338.028	53.202	3.9800	-0.00090
262.0	353.940	55.232	3.9761	-0.00104
266.0	369.836	57.350	3.9717	-0.00116
270.0	385.713	59.416	3.9668	-0.00127
274.0	401.570	61.452	3.9615	-0.00138
278.0	417.404	63.437	3.9558	-0.00148
282.0	433.215	65.511	3.9497	-0.00157
286.0	449.001	67.524	3.9433	-0.00165
290.0	464.761	69.528	3.9365	-0.00173
294.0	480.493	71.521	3.9295	-0.00180
298.0	496.196	73.504	3.9221	-0.00187
302.0	511.870	75.477	3.9145	-0.00193
306.0	527.512	77.440	3.9067	-0.00199
310.0	543.123	79.394	3.8986	-0.00205
314.0	558.700	81.338	3.8903	-0.00210
318.0	574.245	83.272	3.8818	-0.00215
322.0	589.754	85.197	3.8731	-0.00220
326.0	605.229	87.113	3.8642	-0.00224
330.0	620.667	89.020	3.8551	-0.00228
334.0	636.070	90.917	3.8459	-0.00232
338.0	651.435	92.805	3.8366	-0.00236
342.0	666.762	94.634	3.8271	-0.00239
346.0	682.051	96.535	3.8175	-0.00242
350.0	697.302	98.416	3.8077	-0.00245

METHANE ISOCHORE 18.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	Q2P/DT2
178.0	34.766	15.826	4.4043	0.01270
182.0	52.475	18.828	4.4480	0.00938
186.0	70.335	21.725	4.4806	0.00706
190.0	88.310	24.540	4.5053	0.00537
194.0	106.370	27.233	4.5242	0.00409
198.0	124.497	29.332	4.5384	0.00308
202.0	142.673	32.547	4.5491	0.00226
206.0	160.885	35.252	4.5568	0.00162
210.0	179.124	37.843	4.5622	0.00108
214.0	197.380	40.332	4.5656	0.00063
218.0	215.647	42.914	4.5673	0.00025
222.0	233.917	45.438	4.5676	-0.00009
226.0	252.186	47.879	4.5667	-0.00037
230.0	270.450	50.327	4.5647	-0.00062
234.0	288.703	52.753	4.5618	-0.00084
238.0	306.943	55.159	4.5580	-0.00104
242.0	325.166	57.546	4.5535	-0.00121
246.0	343.370	59.915	4.5483	-0.00137
250.0	361.552	62.257	4.5425	-0.00152
254.0	379.710	64.601	4.5362	-0.00165
258.0	397.841	66.920	4.5294	-0.00176
262.0	415.944	69.222	4.5221	-0.00187
266.0	434.017	71.510	4.5144	-0.00197
270.0	452.059	73.733	4.5063	-0.00207
274.0	470.068	76.042	4.4979	-0.00215
278.0	488.042	78.237	4.4891	-0.00223
282.0	505.980	80.518	4.4800	-0.00231
286.0	523.882	82.736	4.4707	-0.00238
290.0	541.745	84.941	4.4610	-0.00244
294.0	559.570	87.133	4.4511	-0.00250
298.0	577.354	89.313	4.4410	-0.00256
302.0	595.097	91.431	4.4306	-0.00262
306.0	612.799	93.536	4.4201	-0.00267
310.0	630.458	95.730	4.4093	-0.00271
314.0	648.073	97.912	4.3984	-0.00276
318.0	665.644	100.032	4.3872	-0.00280
322.0	683.171	102.141	4.3759	-0.00284

METHANE ISOCHORE 19.0 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
174.0	35.346	24.083	5.1773	0.00717
178.0	56.106	27.453	5.2016	0.00508
182.0	76.949	30.719	5.2187	0.00354
186.0	97.848	33.899	5.2304	0.00237
190.0	118.786	37.006	5.2380	0.00146
194.0	139.748	40.052	5.2423	0.00074
198.0	160.722	43.042	5.2441	0.00016
202.0	181.698	45.995	5.2438	-0.00031
206.0	202.669	48.933	5.2417	-0.00071
210.0	223.630	51.742	5.2382	-0.00104
214.0	244.573	54.565	5.2335	-0.00132
218.0	265.496	57.354	5.2277	-0.00156
222.0	286.394	60.111	5.2211	-0.00176
226.0	307.263	62.840	5.2136	-0.00194
230.0	328.102	65.541	5.2055	-0.00210
234.0	348.907	68.216	5.1968	-0.00224
238.0	369.676	70.857	5.1876	-0.00237
242.0	390.407	73.434	5.1779	-0.00248
246.0	411.099	76.039	5.1678	-0.00259
250.0	431.749	78.633	5.1572	-0.00268
254.0	452.356	81.247	5.1463	-0.00276
258.0	472.919	83.791	5.1351	-0.00284
262.0	493.437	86.316	5.1236	-0.00292
266.0	513.907	88.823	5.1118	-0.00299
270.0	534.331	91.313	5.0997	-0.00305
274.0	554.705	93.735	5.0874	-0.00311
278.0	575.029	96.240	5.0748	-0.00316
282.0	595.303	98.630	5.0621	-0.00322
286.0	615.526	101.103	5.0491	-0.00327
290.0	635.696	103.512	5.0360	-0.00331
294.0	655.813	105.905	5.0226	-0.00336
298.0	675.877	108.293	5.0091	-0.00340
302.0	695.886	110.647	4.9954	-0.00344

METHANE ISOCHORE 20.0 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
170.0	42.455	35.002	6.0608	0.00112
174.0	66.704	39.310	6.0629	-0.00001
178.0	90.953	42.915	6.0611	-0.00086
182.0	115.188	46.432	6.0563	-0.00156
186.0	139.400	49.871	6.0492	-0.00200
190.0	163.580	53.242	6.0404	-0.00239
194.0	187.722	56.551	6.0302	-0.00270
198.0	211.820	59.805	6.0189	-0.00294
202.0	235.872	63.008	6.0068	-0.00313
206.0	259.874	66.155	5.9939	-0.00329
210.0	283.823	69.279	5.9805	-0.00342
214.0	307.717	72.353	5.9665	-0.00353
218.0	331.554	75.391	5.9522	-0.00362
222.0	355.334	78.393	5.9376	-0.00370
226.0	379.055	81.353	5.9226	-0.00377
230.0	402.715	84.303	5.9075	-0.00383
234.0	426.314	87.213	5.8920	-0.00388
238.0	449.851	90.095	5.8764	-0.00392
242.0	473.325	92.951	5.8607	-0.00397
246.0	496.736	95.782	5.8447	-0.00401
250.0	520.083	98.599	5.8286	-0.00404
254.0	543.365	101.373	5.8124	-0.00408
258.0	566.582	104.135	5.7960	-0.00411
262.0	589.733	106.875	5.7795	-0.00414
266.0	612.818	109.594	5.7629	-0.00417
270.0	635.836	112.294	5.7462	-0.00419
274.0	658.787	114.974	5.7294	-0.00422
278.0	681.671	117.635	5.7124	-0.00425

METHANE ISOCHORE 21.0 MOL/L

T,K	P,BAK	DP/DO	DP/DT	D2P/DT2
160.0	16.794	+4.544	7.0785	-0.00454
162.0	30.941	+6.733	7.0691	-0.00489
164.0	45.070	48.829	7.0590	-0.00518
166.0	59.177	30.875	7.0484	-0.00541
168.0	73.263	52.331	7.0374	-0.00560
170.0	87.327	34.831	7.0261	-0.00575
172.0	101.367	56.345	7.0144	-0.00587
174.0	115.364	58.735	7.0026	-0.00597
176.0	129.377	50.713	6.9906	-0.00604
178.0	143.346	52.510	6.9784	-0.00610
180.0	157.291	54.477	6.9662	-0.00614
182.0	171.211	56.335	6.9539	-0.00617
184.0	185.106	58.175	6.9415	-0.00618
186.0	198.977	59.338	6.9291	-0.00619
188.0	212.823	71.814	6.9167	-0.00619
190.0	226.644	73.535	6.9044	-0.00619
192.0	240.440	75.370	6.8920	-0.00617
194.0	254.212	77.132	6.8797	-0.00616
196.0	267.959	78.879	6.8674	-0.00614
198.0	281.681	80.613	6.8551	-0.00612
200.0	295.379	82.335	6.8429	-0.00609
202.0	309.053	84.044	6.8307	-0.00607
204.0	322.702	85.741	6.8186	-0.00604
206.0	336.327	87.427	6.8066	-0.00602
208.0	349.929	89.102	6.7946	-0.00599
210.0	363.506	90.766	6.7826	-0.00596
212.0	377.059	92.420	6.7707	-0.00593
214.0	390.589	94.064	6.7589	-0.00591
216.0	404.094	95.698	6.7471	-0.00588
218.0	417.577	97.323	6.7353	-0.00585
220.0	431.036	98.939	6.7237	-0.00583
222.0	444.472	100.546	6.7120	-0.00580
224.0	457.884	102.144	6.7005	-0.00578
226.0	471.273	103.734	6.6889	-0.00576
228.0	484.640	105.316	6.6774	-0.00573
230.0	497.983	106.830	6.6660	-0.00571
232.0	511.304	108.456	6.6546	-0.00569
234.0	524.602	110.014	6.6432	-0.00567
236.0	537.877	111.566	6.6319	-0.00565
238.0	551.129	113.110	6.6206	-0.00563
240.0	564.359	114.646	6.6094	-0.00562
242.0	577.567	116.176	6.5981	-0.00560
244.0	590.752	117.710	6.5870	-0.00559
246.0	603.915	119.216	6.5758	-0.00557
248.0	617.055	120.726	6.5647	-0.00556
250.0	630.173	122.230	6.5536	-0.00555
252.0	643.269	123.728	6.5425	-0.00554
254.0	656.343	125.219	6.5314	-0.00553
256.0	669.395	126.714	6.5204	-0.00552
258.0	682.425	128.184	6.5094	-0.00551
260.0	695.432	129.558	6.4983	-0.00550

METHANE ISOCHORE 22.0 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
154.0	23.629	61.470	8.2331	-0.01305
156.0	40.069	53.731	8.2071	-0.01292
158.0	56.457	55.958	8.1814	-0.01277
160.0	72.795	58.154	8.1561	-0.01261
162.0	89.082	70.321	8.1310	-0.01243
164.0	105.319	72.451	8.1063	-0.01224
166.0	121.507	74.574	8.0820	-0.01205
168.0	137.647	76.653	8.0581	-0.01186
170.0	153.740	78.729	8.0346	-0.01167
172.0	169.786	80.772	8.0115	-0.01147
174.0	185.786	82.794	7.9887	-0.01128
176.0	201.741	84.795	7.9663	-0.01109
178.0	217.652	86.778	7.9443	-0.01090
180.0	233.519	88.742	7.9227	-0.01072
182.0	249.343	90.688	7.9015	-0.01054
184.0	265.125	92.618	7.8806	-0.01036
186.0	280.865	94.531	7.8600	-0.01019
188.0	296.565	96.429	7.8398	-0.01003
190.0	312.225	98.312	7.8199	-0.00987
192.0	327.845	100.180	7.8003	-0.00971
194.0	343.426	102.035	7.7811	-0.00956
196.0	358.970	103.876	7.7621	-0.00941
198.0	374.475	105.704	7.7434	-0.00927
200.0	389.943	107.520	7.7250	-0.00914
202.0	405.375	109.324	7.7068	-0.00901
204.0	420.771	111.116	7.6889	-0.00889
206.0	436.131	112.897	7.6713	-0.00877
208.0	451.456	114.667	7.6539	-0.00865
210.0	466.747	116.427	7.6367	-0.00854
212.0	482.003	118.176	7.6197	-0.00844
214.0	497.226	119.915	7.6029	-0.00834
216.0	512.415	121.645	7.5864	-0.00824
218.0	527.571	123.365	7.5700	-0.00815
220.0	542.695	125.076	7.5538	-0.00806
222.0	557.786	126.778	7.5377	-0.00797
224.0	572.846	128.471	7.5219	-0.00789
226.0	587.874	130.156	7.5062	-0.00782
228.0	602.871	131.833	7.4906	-0.00774
230.0	617.836	133.511	7.4752	-0.00767
232.0	632.772	135.182	7.4599	-0.00761
234.0	647.676	136.845	7.4448	-0.00754
236.0	662.551	138.460	7.4297	-0.00748
238.0	677.395	140.038	7.4148	-0.00742
240.0	692.210	141.729	7.4000	-0.00737

METHANE ISOCHORE 23.0 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
146.0	23.115	30.335	9.5564	-0.02359
148.0	42.181	32.756	9.5099	-0.02293
150.0	61.156	35.143	9.4647	-0.02228
152.0	80.041	37.438	9.4208	-0.02165
154.0	98.839	39.812	9.3781	-0.02105
156.0	117.554	32.086	9.3366	-0.02046
158.0	136.186	34.343	9.2962	-0.01989
160.0	154.739	36.574	9.2570	-0.01935
162.0	173.215	38.730	9.2188	-0.01882
164.0	191.615	100.953	9.1817	-0.01831
166.0	209.942	113.122	9.1455	-0.01783
168.0	228.198	115.251	9.1104	-0.01736
170.0	246.384	117.378	9.0761	-0.01691
172.0	264.503	119.476	9.0427	-0.01648
174.0	282.556	111.555	9.0101	-0.01607
176.0	300.544	113.615	8.9784	-0.01568
178.0	318.470	115.659	8.9474	-0.01530
180.0	336.334	117.686	8.9172	-0.01494
182.0	354.139	119.696	8.8877	-0.01459
184.0	371.885	121.691	8.8588	-0.01426
186.0	389.575	123.671	8.8306	-0.01394
188.0	407.208	125.637	8.8031	-0.01363
190.0	424.788	127.589	8.7761	-0.01334
192.0	442.313	129.528	8.7497	-0.01307
194.0	459.787	131.454	8.7238	-0.01280
196.0	477.209	133.367	8.6985	-0.01255
198.0	494.581	135.268	8.6736	-0.01230
200.0	511.904	137.157	8.6493	-0.01207
202.0	529.178	139.036	8.6253	-0.01185
204.0	546.405	140.913	8.6018	-0.01164
206.0	563.586	142.759	8.5788	-0.01144
208.0	580.721	144.605	8.5561	-0.01124
210.0	597.810	146.441	8.5338	-0.01106
212.0	614.856	148.257	8.5118	-0.01088
214.0	631.858	150.033	8.4902	-0.01072
216.0	648.817	151.830	8.4690	-0.01056
218.0	665.734	153.639	8.4480	-0.01040
220.0	682.609	155.478	8.4273	-0.01026
222.0	699.444	157.259	8.4070	-0.01012

METHANE ISOCHORE 24.0 MOL/L

T,K	P,BAR	OP/JO	OP/OT	O2P/OT2
136.0	10.481	101.550	11.1141	-0.03823
138.0	32.634	104.112	11.0391	-0.03681
140.0	54.639	106.627	10.9668	-0.03547
142.0	76.503	109.108	10.8972	-0.03419
144.0	98.229	111.556	10.8300	-0.03296
146.0	119.824	113.973	10.7653	-0.03180
148.0	141.292	116.350	10.7028	-0.03070
150.0	162.637	118.719	10.6424	-0.02964
152.0	183.863	121.052	10.5842	-0.02864
154.0	204.975	123.359	10.5278	-0.02769
156.0	225.976	125.642	10.4734	-0.02678
158.0	246.870	127.903	10.4207	-0.02591
160.0	267.660	130.141	10.3697	-0.02509
162.0	288.350	132.358	10.3203	-0.02430
164.0	308.942	134.555	10.2725	-0.02355
166.0	329.440	136.733	10.2261	-0.02284
168.0	349.847	138.892	10.1811	-0.02216
170.0	370.166	141.034	10.1374	-0.02152
172.0	390.398	143.158	10.0950	-0.02090
174.0	410.547	145.266	10.0538	-0.02032
176.0	430.614	147.358	10.0137	-0.01976
178.0	450.602	149.435	9.9747	-0.01923
180.0	470.514	151.498	9.9368	-0.01872
182.0	490.350	153.546	9.8999	-0.01823
184.0	510.114	155.581	9.8639	-0.01777
186.0	529.806	157.602	9.8287	-0.01733
188.0	549.429	159.611	9.7945	-0.01691
190.0	568.985	161.607	9.7611	-0.01652
192.0	588.474	163.592	9.7284	-0.01613
194.0	607.899	165.565	9.6965	-0.01577
196.0	627.261	167.527	9.6653	-0.01543
198.0	646.561	169.478	9.6348	-0.01510
200.0	665.800	171.418	9.6049	-0.01478
202.0	684.981	173.348	9.5757	-0.01448

METHANE ISOCHORE 25.0 MOL/L

T,K	P,BAR	OP/JO	OP/OT	O2P/OT2
126.0	5.050	128.311	12.8973	-0.05794
128.0	30.730	130.935	12.7840	-0.05544
130.0	56.189	133.522	12.6755	-0.05308
132.0	81.435	136.073	12.5715	-0.05086
134.0	106.478	138.592	12.4719	-0.04876
136.0	131.326	141.079	12.3764	-0.04678
138.0	155.986	143.537	12.2848	-0.04490
140.0	180.467	145.966	12.1967	-0.04313
142.0	204.776	148.369	12.1122	-0.04145
144.0	228.918	150.746	12.0309	-0.03987
146.0	252.901	153.099	11.9526	-0.03837
148.0	276.731	155.429	11.8773	-0.03695
150.0	300.412	157.737	11.8048	-0.03560
152.0	323.952	160.024	11.7349	-0.03432
154.0	347.354	162.291	11.6675	-0.03311
156.0	370.623	164.538	11.6024	-0.03196
158.0	393.765	166.768	11.5396	-0.03087
160.0	416.783	168.979	11.4789	-0.02984
162.0	439.682	171.174	11.4202	-0.02886
164.0	462.465	173.352	11.3634	-0.02793
166.0	485.137	175.515	11.3085	-0.02704
168.0	507.700	177.663	11.2552	-0.02620
170.0	530.159	179.796	11.2036	-0.02540
172.0	552.515	181.916	11.1536	-0.02464
174.0	574.774	184.022	11.1050	-0.02392
176.0	596.937	186.115	11.0579	-0.02323
178.0	619.006	188.196	11.0121	-0.02257
180.0	640.986	190.264	10.9676	-0.02195
182.0	662.878	192.321	10.9243	-0.02136
184.0	684.684	194.367	10.8821	-0.02080

METHANE ISOCHORE 26.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
116.0	10.520	151.524	14.9131	-0.08420
117.0	25.398	152.320	14.8360	-0.08213
118.0	40.193	154.138	14.7549	-0.08012
119.0	54.908	155.337	14.6757	-0.07818
120.0	69.545	156.658	14.5985	-0.07630
121.0	84.106	157.921	14.5231	-0.07448
122.0	98.592	159.177	14.4495	-0.07272
123.0	113.005	170.425	14.3776	-0.07102
124.0	127.348	171.655	14.3075	-0.06936
125.0	141.621	172.839	14.2389	-0.06776
126.0	155.826	174.125	14.1719	-0.06621
127.0	169.965	175.345	14.1064	-0.06471
128.0	184.039	176.558	14.0425	-0.06326
129.0	198.050	177.755	13.9799	-0.06184
130.0	212.000	178.966	13.9188	-0.06047
131.0	225.888	180.151	13.8590	-0.05915
132.0	239.718	181.320	13.8005	-0.05786
133.0	253.490	182.533	13.7432	-0.05661
134.0	267.205	183.710	13.6872	-0.05539
135.0	280.865	184.833	13.6324	-0.05422
136.0	294.470	186.049	13.5788	-0.05307
137.0	308.023	187.211	13.5263	-0.05196
138.0	321.523	188.358	13.4748	-0.05089
139.0	334.973	189.520	13.4245	-0.04984
140.0	348.372	190.657	13.3752	-0.04882
141.0	361.723	191.809	13.3268	-0.04784
142.0	375.026	192.947	13.2795	-0.04688
143.0	388.283	194.080	13.2331	-0.04594
144.0	401.493	195.219	13.1876	-0.04504
145.0	414.658	196.334	13.1430	-0.04416
146.0	427.779	197.454	13.0993	-0.04330
147.0	440.857	198.571	13.0564	-0.04247
148.0	453.892	199.633	13.0143	-0.04166
149.0	466.886	200.732	12.9731	-0.04087
150.0	479.838	201.837	12.9326	-0.04010
151.0	492.751	202.938	12.8928	-0.03936
152.0	505.624	204.035	12.8539	-0.03863
153.0	518.459	205.139	12.8156	-0.03793
154.0	531.256	206.230	12.7780	-0.03724
155.0	544.015	207.367	12.7411	-0.03657
156.0	556.738	208.450	12.7048	-0.03592
157.0	569.425	209.531	12.6692	-0.03529
158.0	582.077	210.618	12.6343	-0.03467
159.0	594.694	211.692	12.5999	-0.03407
160.0	607.277	212.753	12.5661	-0.03349
161.0	619.826	213.821	12.5329	-0.03292
162.0	632.343	214.885	12.5003	-0.03236
163.0	644.827	215.947	12.4682	-0.03182
164.0	657.279	217.007	12.4366	-0.03130
165.0	669.701	218.053	12.4056	-0.03078
166.0	682.091	219.116	12.3751	-0.03029
167.0	694.451	220.157	12.3450	-0.02980

METHANE ISOCHORE 27.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
105.0	13.940	200.236	17.3004	-0.12219
106.0	31.180	201.475	17.1799	-0.11881
107.0	48.301	202.657	17.0628	-0.11556
108.0	65.307	203.834	16.9488	-0.11242
109.0	82.200	205.005	16.8379	-0.10940
110.0	98.983	206.170	16.7299	-0.10648
111.0	115.661	207.329	16.6249	-0.10367
112.0	132.234	208.484	16.5226	-0.10096
113.0	148.707	209.633	16.4229	-0.09834
114.0	165.081	210.777	16.3259	-0.09581
115.0	181.359	211.916	16.2313	-0.09337
116.0	197.544	213.050	16.1391	-0.09101
117.0	213.638	214.180	16.0492	-0.08873
118.0	229.643	215.306	15.9616	-0.08653
119.0	245.562	216.427	15.8762	-0.08440
120.0	261.396	217.544	15.7928	-0.08234
121.0	277.148	218.657	15.7115	-0.08035
122.0	292.820	219.757	15.6321	-0.07842
123.0	308.413	220.852	15.5546	-0.07655
124.0	323.930	221.944	15.4790	-0.07475
125.0	339.372	223.032	15.4051	-0.07300
126.0	354.741	224.116	15.3329	-0.07131
127.0	370.038	225.257	15.2625	-0.06967
128.0	385.266	226.345	15.1936	-0.06808
129.0	400.426	227.429	15.1263	-0.06654
130.0	415.519	228.511	15.0605	-0.06505
131.0	430.547	229.589	14.9962	-0.06360
132.0	445.512	230.655	14.9333	-0.06220
133.0	460.414	231.737	14.8718	-0.06084
134.0	475.256	232.807	14.8116	-0.05952
135.0	490.038	233.873	14.7527	-0.05824
136.0	504.762	234.938	14.6951	-0.05700
137.0	519.429	235.999	14.6387	-0.05579
138.0	534.040	237.058	14.5835	-0.05462
139.0	548.596	238.114	14.5294	-0.05349
140.0	563.099	239.158	14.4765	-0.05239
141.0	577.549	240.220	14.4247	-0.05132
142.0	591.948	241.259	14.3739	-0.05028
143.0	606.297	242.316	14.3241	-0.04927
144.0	620.597	243.351	14.2753	-0.04829
145.0	634.848	244.403	14.2275	-0.04733
146.0	649.052	245.444	14.1806	-0.04641
147.0	663.210	246.432	14.1347	-0.04550
148.0	677.322	247.518	14.0896	-0.04463
149.0	691.389	248.552	14.0454	-0.04376

METHANE ISOCHORE 27.5 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
99.0	11.423	221.454	18.6804	-0.14843
100.0	30.030	222.533	18.5342	-0.14406
101.0	48.493	223.619	18.3922	-0.13986
102.0	66.816	224.630	18.2544	-0.13582
103.0	85.003	225.748	18.1205	-0.13194
104.0	103.058	226.813	17.9904	-0.12821
105.0	120.985	227.875	17.8640	-0.12461
106.0	138.787	228.933	17.7412	-0.12115
107.0	156.469	229.938	17.6217	-0.11782
108.0	174.032	231.041	17.5055	-0.11461
109.0	191.481	232.030	17.3924	-0.11151
110.0	208.818	233.137	17.2824	-0.10853
111.0	226.046	234.131	17.1754	-0.10565
112.0	243.169	235.223	17.0711	-0.10287
113.0	260.190	236.252	16.9696	-0.10019
114.0	277.110	237.238	16.8707	-0.09760
115.0	293.932	238.333	16.7744	-0.09511
116.0	310.659	239.355	16.6805	-0.09269
117.0	327.294	240.395	16.5889	-0.09036
118.0	343.838	241.423	16.4997	-0.08811
119.0	360.294	242.449	16.4127	-0.08593
120.0	376.664	243.473	16.3278	-0.08383
121.0	392.950	244.495	16.2450	-0.08179
122.0	409.154	245.515	16.1642	-0.07982
123.0	425.279	246.534	16.0853	-0.07792
124.0	441.326	247.551	16.0083	-0.07608
125.0	457.296	248.566	15.9332	-0.07429
126.0	473.193	249.579	15.8597	-0.07256
127.0	489.016	250.531	15.7880	-0.07089
128.0	504.769	251.601	15.7180	-0.06927
129.0	520.453	252.510	15.6495	-0.06770
130.0	536.069	253.617	15.5825	-0.06618
131.0	551.618	254.623	15.5171	-0.06470
132.0	567.103	255.628	15.4531	-0.06327
133.0	582.525	256.631	15.3906	-0.06188
134.0	597.885	257.632	15.3233	-0.06054
135.0	613.184	258.633	15.2695	-0.05923
136.0	628.424	259.632	15.2109	-0.05797
137.0	643.607	260.630	15.1535	-0.05674
138.0	658.732	261.627	15.0974	-0.05555
139.0	673.802	262.623	15.0424	-0.05439
140.0	688.817	263.618	14.9886	-0.05327

METHANE ISOCHORE 28.0 MOL/L

T,K	P,BAR	DP/DD	DP/DT	D2P/DT2
93.0	11.234	2+3.870	20.1629	-0.17994
94.0	31.308	2+4.778	19.9858	-0.17429
95.0	51.207	2+5.637	19.8142	-0.16888
96.0	70.938	2+6.535	19.6479	-0.16359
97.0	90.505	2+7.504	19.4868	-0.15871
98.0	109.913	2+8.413	19.3305	-0.15393
99.0	129.167	2+9.323	19.1788	-0.14934
100.0	148.272	2+0.233	19.0317	-0.14493
101.0	167.232	2+1.1+3	18.8889	-0.14069
102.0	186.051	2+2.054	18.7503	-0.13662
103.0	204.734	2+2.955	18.6156	-0.13270
104.0	223.284	2+3.876	18.4848	-0.12893
105.0	241.705	2+4.738	18.3577	-0.12531
106.0	260.000	2+5.700	18.2342	-0.12182
107.0	278.174	2+6.613	18.1140	-0.11846
108.0	296.230	2+7.526	17.9972	-0.11522
109.0	314.170	2+8.4+0	17.8836	-0.11210
110.0	331.998	2+9.354	17.7730	-0.10909
111.0	349.717	2+0.258	17.6654	-0.10619
112.0	367.329	2+1.133	17.5606	-0.10339
113.0	384.839	2+2.038	17.4586	-0.10069
114.0	402.247	2+3.014	17.3592	-0.09808
115.0	419.558	2+3.930	17.2624	-0.09556
116.0	436.773	2+4.8+7	17.1680	-0.09314
117.0	453.895	2+5.754	17.0761	-0.09079
118.0	470.926	2+6.631	16.9864	-0.08852
119.0	487.868	2+7.539	16.8990	-0.08633
120.0	504.725	2+8.517	16.8137	-0.08421
121.0	521.497	2+9.435	16.7306	-0.08216
122.0	538.186	270.354	16.6494	-0.08018
123.0	554.796	271.274	16.5702	-0.07826
124.0	571.327	272.134	16.4928	-0.07641
125.0	587.782	273.114	16.4173	-0.07461
126.0	604.163	274.035	16.3436	-0.07287
127.0	620.470	274.956	16.2716	-0.07119
128.0	636.706	275.877	16.2012	-0.06956
129.0	652.873	276.739	16.1325	-0.06798
130.0	668.972	277.721	16.0652	-0.06645
131.0	685.004	276.6+3	15.9995	-0.06496

METHANE ISOCHORE 28.5 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
96.0	200.967	273.049	20.6519	-0.16227
97.0	220.939	273.756	19.6921	-0.15732
98.0	240.753	274.457	19.7372	-0.15258
99.0	260.415	275.134	19.5869	-0.14802
100.0	279.929	275.915	19.4411	-0.14364
101.0	299.299	276.632	19.2995	-0.13943
102.0	318.529	277.353	19.1622	-0.13539
103.0	337.624	278.039	19.0288	-0.13150
104.0	356.568	278.839	18.8991	-0.12776
105.0	375.424	279.534	18.7732	-0.12416
106.0	394.135	280.332	18.6508	-0.12069
107.0	412.726	281.035	18.5318	-0.11735
108.0	431.260	281.842	18.4160	-0.11414
109.0	449.560	282.633	18.3035	-0.11104
110.0	467.668	283.358	18.1939	-0.10806
111.0	485.948	284.137	18.0873	-0.10518
112.0	503.984	284.919	17.9835	-0.10240
113.0	521.916	285.695	17.8825	-0.09972
114.0	539.749	286.454	17.7840	-0.09714
115.0	557.485	287.246	17.6882	-0.09464
116.0	575.126	288.032	17.5947	-0.09223
117.0	592.675	288.821	17.5037	-0.08991
118.0	610.135	289.613	17.4149	-0.08766
119.0	627.506	290.419	17.3283	-0.08549
120.0	644.792	291.237	17.2439	-0.08338
121.0	661.994	292.018	17.1615	-0.08135
122.0	679.116	292.812	17.0812	-0.07939
123.0	696.157	293.619	17.0027	-0.07749

METHANE ISOCHORE 29.0 MOL/L

T,K	P,BAR	DP/DO	DP/DT	D2P/DT2
103.0	482.144	299.070	19.3503	-0.12817
104.0	501.430	299.819	19.2239	-0.12452
105.0	520.593	300.177	19.1012	-0.12101
106.0	539.634	300.742	18.9819	-0.11763
107.0	558.558	301.317	18.8659	-0.11437
108.0	577.367	301.939	18.7531	-0.11124
109.0	596.065	302.438	18.6434	-0.10822
110.0	614.655	303.036	18.5366	-0.10530
111.0	633.139	303.630	18.4327	-0.10250
112.0	651.521	304.312	18.3316	-0.09979
113.0	669.803	304.921	18.2331	-0.09718
114.0	687.988	305.546	18.1372	-0.09466

Table 11. Calculated $P(\rho)$ isotherms

The following pages give $P(\rho)$ isotherms, as computed by the equation of state (6). The third column DP/DD is the isotherm slope $(\partial P/\partial \rho)$ in units of the bar and mol/l. The fourth column DP/DT is the isochore slope $(\partial P/\partial T)$ in units of the bar and kelvins. Remaining columns validate the analytical expressions used to compute derivatives of functions composing the equation of state.

These tables show that $\partial P/\partial \rho$ is non-negative, and that it increases monotonically with density to pressures about twice those used for adjusting the equation of state.

METHANE ISOTHERM 95.0 DEG. K

MDL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
27.8	3.195	234.390	19.6246	0.001	0.063	-0.003	-0.253	-0.000	-0.016
27.9	26.919	240.069	19.7214	0.007	0.063	-0.029	-0.260	-0.002	-0.014
28.0	51.207	245.687	19.8142	0.013	0.063	-0.055	-0.268	-0.003	-0.013
28.1	76.054	251.229	19.9030	0.020	0.063	-0.082	-0.276	-0.004	-0.012
28.2	101.450	256.682	19.9878	0.026	0.063	-0.111	-0.284	-0.005	-0.010
28.3	127.386	262.030	20.0684	0.032	0.064	-0.139	-0.293	-0.006	-0.009
28.4	153.852	267.258	20.1447	0.039	0.064	-0.169	-0.302	-0.007	-0.008

METHANE ISOTHERM 100.0 DEG. K

MDL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
27.4	8.059	216.886	18.4249	0.002	0.062	-0.008	-0.225	-0.001	-0.017
27.5	30.030	222.533	18.5342	0.008	0.062	-0.031	-0.232	-0.002	-0.016
27.6	52.565	228.159	18.6403	0.015	0.062	-0.054	-0.239	-0.004	-0.014
27.7	75.661	233.753	18.7432	0.021	0.062	-0.079	-0.246	-0.005	-0.013
27.8	99.314	239.304	18.8428	0.027	0.063	-0.104	-0.253	-0.006	-0.012
27.9	123.520	244.801	18.9390	0.033	0.063	-0.129	-0.260	-0.007	-0.010
28.0	148.272	250.233	19.0317	0.040	0.063	-0.156	-0.268	-0.008	-0.009
28.1	173.564	255.585	19.1210	0.046	0.063	-0.183	-0.276	-0.009	-0.008
28.2	199.386	260.845	19.2066	0.052	0.063	-0.211	-0.284	-0.010	-0.007
28.3	225.729	265.995	19.2886	0.059	0.064	-0.240	-0.293	-0.011	-0.006
28.4	252.581	271.022	19.3667	0.065	0.064	-0.269	-0.302	-0.011	-0.005
28.5	279.929	275.905	19.4411	0.071	0.064	-0.300	-0.311	-0.012	-0.004
28.6	307.757	280.628	19.5115	0.078	0.064	-0.332	-0.321	-0.012	-0.004
28.7	336.048	285.169	19.5779	0.084	0.064	-0.364	-0.331	-0.012	-0.003
28.8	364.784	289.506	19.6403	0.091	0.064	-0.398	-0.341	-0.013	-0.002

METHANE ISOTHERM 105.0 DEG. K

MDL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
27.0	13.940	200.286	17.3004	0.004	0.060	-0.013	-0.202	-0.001	-0.019
27.1	34.245	205.805	17.4184	0.010	0.061	-0.034	-0.207	-0.003	-0.017
27.2	55.101	211.331	17.5338	0.016	0.061	-0.055	-0.213	-0.005	-0.015
27.3	76.511	216.857	17.6466	0.022	0.061	-0.077	-0.219	-0.006	-0.014
27.4	98.472	222.374	17.7567	0.028	0.062	-0.099	-0.225	-0.007	-0.013
27.5	120.985	227.875	17.8640	0.035	0.062	-0.122	-0.232	-0.009	-0.011
27.6	144.047	233.350	17.9686	0.041	0.062	-0.145	-0.239	-0.010	-0.010
27.7	167.654	238.790	18.0703	0.047	0.062	-0.169	-0.246	-0.011	-0.009
27.8	191.803	244.184	18.1691	0.053	0.063	-0.194	-0.253	-0.012	-0.008
27.9	216.489	249.521	18.2650	0.060	0.063	-0.220	-0.260	-0.012	-0.007
28.0	241.705	254.788	18.3577	0.066	0.063	-0.246	-0.268	-0.013	-0.006
28.1	267.444	259.973	18.4474	0.072	0.063	-0.274	-0.276	-0.013	-0.005
28.2	293.696	265.061	18.5338	0.079	0.063	-0.302	-0.284	-0.014	-0.004
28.3	320.452	270.036	18.6170	0.085	0.064	-0.330	-0.293	-0.014	-0.003
28.4	347.699	274.883	18.6968	0.091	0.064	-0.360	-0.302	-0.015	-0.003
28.5	375.424	279.584	18.7732	0.098	0.064	-0.391	-0.311	-0.015	-0.002
28.6	403.610	284.119	18.8461	0.104	0.064	-0.422	-0.321	-0.015	-0.001
28.7	432.241	288.468	18.9155	0.110	0.064	-0.455	-0.331	-0.015	-0.001
28.8	461.297	292.610	18.9811	0.117	0.064	-0.489	-0.341	-0.015	-0.000
28.9	490.756	296.521	19.0431	0.123	0.064	-0.523	-0.352	-0.015	0.000
29.0	520.593	300.177	19.1012	0.130	0.064	-0.559	-0.363	-0.015	0.001
29.1	550.781	303.550	19.1554	0.136	0.064	-0.596	-0.374	-0.015	0.001

METHANE ISOTHERM 110.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
26.5	2.608	179.430	16.1222	0.001	0.059	-0.002	-0.176	-0.000	-0.022
26.6	20.816	184.725	16.2479	0.006	0.059	-0.020	-0.181	-0.002	-0.020
26.7	39.554	190.052	16.3716	0.012	0.059	-0.038	-0.186	-0.004	-0.018
26.8	58.827	195.405	16.4931	0.018	0.060	-0.057	-0.191	-0.006	-0.017
26.9	78.636	200.779	16.6126	0.024	0.060	-0.076	-0.196	-0.007	-0.015
27.0	98.983	206.170	16.7299	0.030	0.060	-0.096	-0.202	-0.009	-0.014
27.1	119.870	211.571	16.8451	0.036	0.061	-0.116	-0.207	-0.010	-0.012
27.2	141.298	216.975	16.9579	0.042	0.061	-0.137	-0.213	-0.011	-0.011
27.3	163.265	222.376	17.0685	0.049	0.061	-0.159	-0.219	-0.012	-0.010
27.4	185.772	227.766	17.1767	0.055	0.062	-0.181	-0.225	-0.013	-0.009
27.5	208.818	233.137	17.2824	0.061	0.062	-0.204	-0.232	-0.014	-0.008
27.6	232.399	238.479	17.3857	0.067	0.062	-0.228	-0.239	-0.015	-0.007
27.7	256.512	243.783	17.4865	0.073	0.062	-0.252	-0.246	-0.015	-0.006
27.8	281.154	249.038	17.5847	0.080	0.063	-0.277	-0.253	-0.016	-0.005
27.9	306.318	254.232	17.6802	0.086	0.063	-0.302	-0.260	-0.016	-0.004
28.0	331.998	259.354	17.7730	0.092	0.063	-0.329	-0.268	-0.017	-0.003
28.1	358.186	264.389	17.8630	0.098	0.063	-0.356	-0.276	-0.017	-0.002
28.2	384.872	269.325	17.9502	0.105	0.063	-0.384	-0.284	-0.017	-0.002
28.3	412.047	274.144	18.0344	0.111	0.064	-0.413	-0.293	-0.017	-0.001
28.4	439.697	278.831	18.1157	0.117	0.064	-0.443	-0.302	-0.018	-0.001
28.5	467.808	283.368	18.1939	0.124	0.064	-0.473	-0.311	-0.018	-0.000
28.6	496.365	287.736	18.2690	0.130	0.064	-0.505	-0.321	-0.018	0.000
28.7	525.349	291.914	18.3409	0.137	0.064	-0.537	-0.331	-0.017	0.001
28.8	554.741	295.881	18.4095	0.143	0.064	-0.571	-0.341	-0.017	0.001
28.9	584.517	299.613	18.4748	0.150	0.064	-0.606	-0.352	-0.017	0.002
29.0	614.655	303.086	18.5366	0.156	0.064	-0.641	-0.363	-0.017	0.002
29.1	645.125	306.272	18.5950	0.162	0.064	-0.678	-0.374	-0.017	0.002
29.2	675.898	309.143	18.6497	0.169	0.064	-0.716	-0.386	-0.017	0.003

METHANE ISOTHERM 115.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.1	0.929	9.007	0.0085	0.026	-0.674	-0.075	2.022	-0.058	1.415
06.1	11.830	165.222	15.1346	0.004	0.057	-0.010	-0.159	-0.001	-0.023
26.2	28.605	170.271	15.2633	0.009	0.057	-0.026	-0.163	-0.004	-0.021
26.3	45.886	175.363	15.3904	0.015	0.058	-0.043	-0.167	-0.006	-0.019
26.4	63.679	180.496	15.5158	0.021	0.058	-0.060	-0.172	-0.008	-0.018
26.5	81.986	185.665	15.6395	0.027	0.059	-0.077	-0.176	-0.009	-0.016
26.6	100.813	190.867	15.7615	0.033	0.059	-0.095	-0.181	-0.011	-0.015
26.7	120.161	196.098	15.8817	0.039	0.059	-0.113	-0.186	-0.012	-0.013
26.8	140.033	201.353	16.0001	0.045	0.060	-0.132	-0.191	-0.013	-0.012
26.9	160.432	206.628	16.1166	0.051	0.060	-0.151	-0.196	-0.014	-0.011
27.0	181.359	211.916	16.2313	0.057	0.060	-0.171	-0.202	-0.015	-0.009
27.1	202.815	217.212	16.3440	0.063	0.061	-0.192	-0.207	-0.016	-0.008
27.2	224.802	222.509	16.4547	0.069	0.061	-0.213	-0.213	-0.017	-0.007
27.3	247.317	227.800	16.5634	0.075	0.061	-0.234	-0.219	-0.018	-0.006
27.4	270.361	233.078	16.6699	0.081	0.062	-0.257	-0.225	-0.018	-0.005
27.5	293.932	238.333	16.7744	0.087	0.062	-0.279	-0.232	-0.019	-0.004
27.6	318.027	243.557	16.8766	0.093	0.062	-0.303	-0.239	-0.019	-0.004
27.7	342.642	248.740	16.9765	0.100	0.062	-0.327	-0.246	-0.020	-0.003
27.8	367.773	253.871	17.0742	0.106	0.063	-0.352	-0.253	-0.020	-0.002
27.9	393.414	258.938	17.1695	0.112	0.063	-0.378	-0.260	-0.020	-0.001
28.0	419.558	263.930	17.2624	0.118	0.063	-0.404	-0.268	-0.020	-0.001
28.1	446.197	268.833	17.3527	0.125	0.063	-0.431	-0.276	-0.020	-0.000
28.2	473.321	273.632	17.4406	0.131	0.063	-0.459	-0.284	-0.020	0.000
28.3	500.919	278.311	17.5258	0.137	0.064	-0.488	-0.293	-0.020	0.001
28.4	528.979	282.856	17.6083	0.144	0.064	-0.518	-0.302	-0.020	0.001
28.5	557.485	287.246	17.6882	0.150	0.064	-0.549	-0.311	-0.020	0.002
28.6	586.422	291.464	17.7652	0.157	0.064	-0.580	-0.321	-0.020	0.002
28.7	615.772	295.489	17.8393	0.163	0.064	-0.613	-0.331	-0.019	0.002
28.8	645.513	299.299	17.9105	0.169	0.064	-0.646	-0.341	-0.019	0.003
28.9	675.624	302.871	17.9787	0.176	0.064	-0.681	-0.352	-0.019	0.003

METHANE ISOTHERM 120.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.1	0.971	9.442	0.0085	0.052	-0.674	-0.144	2.022	-0.107	1.219
0.2	1.888	8.896	0.0174	0.001	-0.400	-0.003	1.012	-0.003	0.921
25.6	6.756	147.421	14.0813	0.002	0.055	-0.005	-0.140	-0.001	-0.025
25.7	21.734	152.153	14.2125	0.007	0.056	-0.019	-0.143	-0.003	-0.024
25.8	37.189	156.938	14.3424	0.013	0.056	-0.033	-0.147	-0.006	-0.022
25.9	53.124	161.774	14.4711	0.019	0.056	-0.048	-0.151	-0.008	-0.020
26.0	69.545	166.658	14.5985	0.024	0.057	-0.063	-0.155	-0.010	-0.018
26.1	86.457	171.589	14.7245	0.030	0.057	-0.079	-0.159	-0.011	-0.017
26.2	103.864	176.564	14.8492	0.036	0.057	-0.095	-0.163	-0.013	-0.015
26.3	121.771	181.581	14.9724	0.041	0.058	-0.112	-0.167	-0.014	-0.014
26.4	140.182	186.635	15.0943	0.047	0.058	-0.129	-0.172	-0.016	-0.013
26.5	159.099	191.724	15.2146	0.053	0.059	-0.146	-0.176	-0.017	-0.011
26.6	178.528	196.844	15.3334	0.059	0.059	-0.164	-0.181	-0.018	-0.010
26.7	198.469	201.991	15.4507	0.065	0.059	-0.182	-0.186	-0.019	-0.009
26.8	218.927	207.161	15.5664	0.071	0.060	-0.201	-0.191	-0.020	-0.008
26.9	239.902	212.347	15.6804	0.077	0.060	-0.220	-0.196	-0.021	-0.007
27.0	261.396	217.544	15.7928	0.083	0.060	-0.240	-0.202	-0.021	-0.006
27.1	283.411	222.747	15.9034	0.089	0.061	-0.261	-0.207	-0.022	-0.005
27.2	305.946	227.949	16.0123	0.095	0.061	-0.282	-0.213	-0.022	-0.004
27.3	329.001	233.143	16.1194	0.101	0.061	-0.303	-0.219	-0.023	-0.003
27.4	352.574	238.320	16.2245	0.107	0.062	-0.326	-0.225	-0.023	-0.002
27.5	376.664	243.473	16.3278	0.113	0.062	-0.348	-0.232	-0.023	-0.002
27.6	401.267	248.592	16.4291	0.120	0.062	-0.372	-0.239	-0.023	-0.001
27.7	426.381	253.667	16.5284	0.126	0.062	-0.396	-0.246	-0.023	-0.000
27.8	451.999	258.687	16.6257	0.132	0.063	-0.421	-0.253	-0.023	0.000
27.9	478.116	263.641	16.7208	0.138	0.063	-0.447	-0.260	-0.023	0.001
28.0	504.725	268.517	16.8137	0.145	0.063	-0.473	-0.268	-0.023	0.001
28.1	531.816	273.300	16.9044	0.151	0.063	-0.500	-0.276	-0.023	0.002
28.2	559.381	277.977	16.9929	0.157	0.063	-0.528	-0.284	-0.023	0.002
28.3	587.408	282.532	17.0790	0.164	0.064	-0.557	-0.293	-0.023	0.003
28.4	615.883	286.948	17.1627	0.170	0.064	-0.587	-0.302	-0.022	0.003
28.5	644.792	291.207	17.2439	0.176	0.064	-0.618	-0.311	-0.022	0.003
28.6	674.118	295.290	17.3226	0.183	0.064	-0.649	-0.321	-0.022	0.004

METHANE ISOTHERM 130.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.1	1.056	10.307	0.0085	0.105	-0.674	-0.266	2.022	-0.182	0.937
0.2	2.061	9.800	0.0173	0.054	-0.400	-0.126	1.012	-0.104	0.678
0.3	3.016	9.294	0.0264	0.020	-0.294	-0.044	0.671	-0.042	0.587
24.6	6.139	116.881	12.1560	0.001	0.051	-0.002	-0.110	-0.001	-0.031
24.7	18.031	120.954	12.2869	0.006	0.052	-0.013	-0.113	-0.004	-0.029
24.8	30.332	125.086	12.4171	0.011	0.052	-0.025	-0.116	-0.006	-0.027
24.9	43.050	129.275	12.5466	0.017	0.052	-0.037	-0.118	-0.009	-0.025
25.0	56.189	133.522	12.6755	0.022	0.053	-0.049	-0.121	-0.011	-0.023
25.1	69.756	137.825	12.8035	0.027	0.053	-0.061	-0.124	-0.014	-0.021
25.2	83.756	142.185	12.9308	0.033	0.054	-0.073	-0.127	-0.016	-0.020
25.3	98.195	146.600	13.0574	0.038	0.054	-0.086	-0.130	-0.017	-0.018
25.4	113.078	151.070	13.1831	0.043	0.054	-0.099	-0.133	-0.019	-0.016
25.5	128.410	155.593	13.3079	0.049	0.055	-0.113	-0.137	-0.021	-0.015
25.6	144.198	160.169	13.4319	0.054	0.055	-0.127	-0.140	-0.022	-0.014
25.7	160.446	164.796	13.5551	0.060	0.056	-0.141	-0.143	-0.024	-0.012
25.8	177.159	169.472	13.6772	0.065	0.056	-0.155	-0.147	-0.025	-0.011
25.9	194.342	174.196	13.7985	0.071	0.056	-0.170	-0.151	-0.026	-0.010
26.0	212.000	178.966	13.9188	0.077	0.057	-0.186	-0.155	-0.027	-0.009
26.1	230.137	183.779	14.0380	0.082	0.057	-0.201	-0.159	-0.027	-0.008
26.2	248.757	188.633	14.1563	0.088	0.057	-0.217	-0.163	-0.028	-0.007
26.3	267.864	193.524	14.2734	0.094	0.058	-0.234	-0.167	-0.029	-0.006
26.4	287.463	198.450	14.3894	0.100	0.058	-0.251	-0.172	-0.029	-0.005
26.5	307.555	203.408	14.5043	0.105	0.059	-0.268	-0.176	-0.030	-0.004
26.6	328.145	208.392	14.6181	0.111	0.059	-0.286	-0.181	-0.030	-0.003
26.7	349.235	213.400	14.7306	0.117	0.059	-0.304	-0.186	-0.030	-0.002
26.8	370.826	218.426	14.8419	0.123	0.060	-0.323	-0.191	-0.030	-0.001
26.9	392.920	223.465	14.9518	0.129	0.060	-0.343	-0.196	-0.031	-0.001
27.0	415.519	228.511	15.0605	0.135	0.060	-0.362	-0.202	-0.031	0.000
27.1	438.623	233.558	15.1678	0.141	0.061	-0.383	-0.207	-0.031	0.001
27.2	462.231	238.600	15.2737	0.147	0.061	-0.404	-0.213	-0.030	0.001
27.3	486.342	243.630	15.3781	0.153	0.061	-0.426	-0.219	-0.030	0.002
27.4	510.956	248.638	15.4811	0.160	0.062	-0.448	-0.225	-0.030	0.002
27.5	536.069	253.617	15.5825	0.166	0.062	-0.471	-0.232	-0.030	0.003
27.6	561.678	258.558	15.6824	0.172	0.062	-0.494	-0.239	-0.030	0.003
27.7	587.779	263.450	15.7807	0.178	0.062	-0.518	-0.246	-0.029	0.004
27.8	614.366	268.282	15.8772	0.184	0.063	-0.543	-0.253	-0.029	0.004
27.9	641.433	273.043	15.9721	0.191	0.063	-0.569	-0.260	-0.028	0.004
28.0	668.972	277.721	16.0652	0.197	0.063	-0.595	-0.268	-0.028	0.005
28.1	696.974	282.301	16.1566	0.203	0.063	-0.623	-0.276	-0.027	0.005

METHANE ISOTHERM 140.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	X8	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.1	1.140	11.167	0.0084	0.157	-0.674	-0.371	2.022	-0.238	0.743
0.2	2.233	10.693	0.0172	0.106	-0.400	-0.230	1.012	-0.177	0.522
0.3	3.279	10.221	0.0262	0.072	-0.294	-0.148	0.671	-0.129	0.440
0.4	4.278	9.749	0.0356	0.046	-0.237	-0.091	0.499	-0.088	0.398
0.5	5.229	9.275	0.0453	0.024	-0.199	-0.046	0.395	-0.049	0.376
0.6	6.132	8.799	0.0554	0.006	-0.173	-0.011	0.326	-0.012	0.364
23.6	14.850	92.469	10.4649	0.004	0.047	-0.008	-0.088	-0.003	-0.035
23.7	24.269	95.925	10.5908	0.009	0.048	-0.017	-0.090	-0.007	-0.033
23.8	34.037	99.436	10.7164	0.014	0.048	-0.026	-0.092	-0.010	-0.031
23.9	44.158	103.004	10.8418	0.019	0.048	-0.036	-0.094	-0.013	-0.029
24.0	54.639	106.627	10.9668	0.024	0.049	-0.045	-0.096	-0.016	-0.027
24.1	65.485	110.308	11.0915	0.028	0.049	-0.055	-0.099	-0.018	-0.025
24.2	76.703	114.044	11.2159	0.033	0.050	-0.065	-0.101	-0.021	-0.023
24.3	88.296	117.837	11.3399	0.038	0.050	-0.075	-0.103	-0.023	-0.021
24.4	100.272	121.687	11.4636	0.043	0.050	-0.085	-0.105	-0.025	-0.020
24.5	112.635	125.593	11.5869	0.048	0.051	-0.096	-0.108	-0.027	-0.018
24.6	125.392	129.556	11.7097	0.054	0.051	-0.107	-0.110	-0.028	-0.017
24.7	138.549	133.575	11.8322	0.059	0.052	-0.118	-0.113	-0.030	-0.015
24.8	152.109	137.650	11.9542	0.064	0.052	-0.130	-0.116	-0.032	-0.014
24.9	166.080	141.780	12.0757	0.069	0.052	-0.141	-0.118	-0.033	-0.013
25.0	180.467	145.966	12.1967	0.074	0.053	-0.153	-0.121	-0.034	-0.011
25.1	195.275	150.207	12.3173	0.080	0.053	-0.166	-0.124	-0.035	-0.010
25.2	210.510	154.501	12.4373	0.085	0.054	-0.178	-0.127	-0.036	-0.009
25.3	226.177	158.848	12.5567	0.090	0.054	-0.191	-0.130	-0.037	-0.008
25.4	242.282	163.248	12.6756	0.096	0.054	-0.204	-0.133	-0.038	-0.007
25.5	258.829	167.698	12.7938	0.101	0.055	-0.218	-0.137	-0.038	-0.006
25.6	275.823	172.199	12.9115	0.107	0.055	-0.231	-0.140	-0.039	-0.005
25.7	293.270	176.748	13.0284	0.112	0.056	-0.246	-0.143	-0.039	-0.004
25.8	311.174	181.343	13.1447	0.118	0.056	-0.260	-0.147	-0.040	-0.003
25.9	329.540	185.984	13.2603	0.123	0.056	-0.275	-0.151	-0.040	-0.002
26.0	348.372	190.667	13.3752	0.129	0.057	-0.290	-0.155	-0.040	-0.001
26.1	367.675	195.390	13.4892	0.135	0.057	-0.306	-0.159	-0.040	-0.000
26.2	387.452	200.151	13.6025	0.141	0.057	-0.322	-0.163	-0.040	0.000
26.3	407.706	204.947	13.7150	0.146	0.058	-0.339	-0.167	-0.040	0.001
26.4	428.442	209.774	13.8266	0.152	0.058	-0.356	-0.172	-0.040	0.002
26.5	449.662	214.629	13.9373	0.158	0.059	-0.373	-0.176	-0.040	0.002
26.6	471.369	219.508	14.0471	0.164	0.059	-0.391	-0.181	-0.039	0.003
26.7	493.564	224.406	14.1560	0.170	0.059	-0.409	-0.186	-0.039	0.003
26.8	516.250	229.319	14.2638	0.176	0.060	-0.428	-0.191	-0.039	0.004
26.9	539.428	234.242	14.3707	0.182	0.060	-0.447	-0.196	-0.038	0.004
27.0	563.099	239.168	14.4765	0.188	0.060	-0.467	-0.202	-0.038	0.005
27.1	587.262	244.092	14.5812	0.194	0.061	-0.488	-0.207	-0.037	0.005
27.2	611.917	249.007	14.6848	0.200	0.061	-0.509	-0.213	-0.037	0.005
27.3	637.063	253.905	14.7873	0.206	0.061	-0.530	-0.219	-0.036	0.006
27.4	662.697	258.778	14.8886	0.212	0.062	-0.552	-0.225	-0.036	0.006
27.5	688.817	263.618	14.9886	0.218	0.062	-0.575	-0.232	-0.035	0.006

METHANE ISOTHERM 150.0 DEG. K

MOL/L	P,BAR	DP/DO	DP/DT	X8	DX8/DO	XC	DXC/DO	XO	DXO/DO
0.2	2.405	11.577	0.0171	0.159	-0.400	-0.321	1.012	-0.231	0.413
0.4	4.632	10.693	0.0353	0.098	-0.237	-0.181	0.499	-0.162	0.302
0.6	6.682	9.810	0.0546	0.058	-0.173	-0.101	0.326	-0.106	0.265
0.8	8.556	8.931	0.0752	0.027	-0.138	-0.046	0.238	-0.055	0.251
1.0	10.255	8.062	0.0971	0.002	-0.114	-0.004	0.186	-0.005	0.248
22.4	15.442	67.547	8.7568	0.003	0.042	-0.005	-0.069	-0.003	-0.041
22.6	29.514	73.205	8.9927	0.012	0.043	-0.019	-0.072	-0.011	-0.037
22.8	44.738	79.070	9.2287	0.020	0.044	-0.034	-0.075	-0.018	-0.033
23.0	61.156	85.143	9.4647	0.029	0.045	-0.049	-0.078	-0.024	-0.029
23.2	78.809	91.428	9.7007	0.038	0.045	-0.065	-0.081	-0.029	-0.025
23.4	97.741	97.927	9.9366	0.047	0.046	-0.082	-0.085	-0.034	-0.022
23.6	117.994	104.640	10.1723	0.057	0.047	-0.099	-0.088	-0.038	-0.019
23.8	139.612	111.571	10.4076	0.066	0.048	-0.117	-0.092	-0.042	-0.016
24.0	162.637	118.719	10.6424	0.076	0.049	-0.136	-0.096	-0.045	-0.013
24.2	187.114	126.087	10.8767	0.086	0.050	-0.156	-0.101	-0.047	-0.011
24.4	213.086	133.673	11.1102	0.096	0.050	-0.176	-0.105	-0.049	-0.008
24.6	240.598	141.479	11.3428	0.106	0.051	-0.198	-0.110	-0.050	-0.006
24.8	269.692	149.501	11.5744	0.116	0.052	-0.220	-0.116	-0.051	-0.004
25.0	300.412	157.737	11.8048	0.127	0.053	-0.244	-0.121	-0.052	-0.002
25.2	332.801	166.183	12.0338	0.137	0.054	-0.269	-0.127	-0.052	-0.001
25.4	366.899	174.832	12.2613	0.148	0.054	-0.295	-0.133	-0.052	0.001
25.6	402.747	183.675	12.4870	0.159	0.055	-0.322	-0.140	-0.052	0.002
25.8	440.381	192.702	12.7109	0.170	0.056	-0.351	-0.147	-0.051	0.004
26.0	479.838	201.897	12.9326	0.182	0.057	-0.381	-0.155	-0.050	0.005
26.2	521.150	211.242	13.1520	0.193	0.057	-0.413	-0.163	-0.049	0.006
26.4	564.344	220.714	13.3688	0.205	0.058	-0.446	-0.172	-0.048	0.006
26.6	609.442	230.286	13.5830	0.216	0.059	-0.481	-0.181	-0.047	0.007
26.8	656.462	239.923	13.7941	0.228	0.060	-0.519	-0.191	-0.045	0.008

METHANE ISOTHERM 160.0 DEG. K

MOL/L	P,BAR	DP/DO	DP/DT	X8	DX8/DO	XC	DXC/DO	XO	DXO/DO
0.2	2.576	12.456	0.0171	0.211	-0.400	-0.400	1.012	-0.274	0.332
0.4	4.984	11.623	0.0351	0.151	-0.237	-0.261	0.499	-0.219	0.235
0.6	7.225	10.794	0.0541	0.110	-0.173	-0.181	0.326	-0.176	0.200
0.8	9.302	9.974	0.0741	0.080	-0.138	-0.125	0.238	-0.138	0.183
1.0	11.216	9.168	0.0952	0.055	-0.114	-0.083	0.186	-0.102	0.175
1.2	12.970	8.380	0.1174	0.033	-0.098	-0.050	0.151	-0.067	0.172
1.4	14.569	7.611	0.1409	0.015	-0.085	-0.022	0.126	-0.033	0.173
21.0	16.794	44.644	7.0785	0.001	0.036	-0.001	-0.052	-0.001	-0.048
21.2	26.152	48.966	7.2918	0.008	0.037	-0.012	-0.054	-0.010	-0.044
21.4	36.393	53.476	7.5062	0.016	0.038	-0.022	-0.056	-0.018	-0.040
21.6	47.555	58.176	7.7218	0.023	0.039	-0.034	-0.058	-0.026	-0.036
21.8	59.676	63.068	7.9384	0.031	0.040	-0.046	-0.061	-0.033	-0.032
22.0	72.795	68.154	8.1561	0.039	0.040	-0.058	-0.063	-0.039	-0.029
22.2	86.951	73.437	8.3747	0.047	0.041	-0.071	-0.066	-0.044	-0.025
22.4	102.183	78.919	8.5942	0.056	0.042	-0.085	-0.069	-0.049	-0.022
22.6	118.532	84.601	8.8144	0.064	0.043	-0.099	-0.072	-0.053	-0.019
22.8	136.037	90.485	9.0354	0.073	0.044	-0.113	-0.075	-0.057	-0.016
23.0	154.739	96.574	9.2570	0.082	0.045	-0.128	-0.078	-0.060	-0.014
23.2	174.680	102.869	9.4790	0.091	0.045	-0.144	-0.081	-0.062	-0.011
23.4	195.901	109.372	9.7015	0.100	0.046	-0.161	-0.085	-0.064	-0.009
23.6	218.443	116.084	9.9241	0.109	0.047	-0.178	-0.088	-0.066	-0.007
23.8	242.349	123.007	10.1469	0.119	0.048	-0.196	-0.092	-0.067	-0.005
24.0	267.660	130.141	10.3697	0.128	0.049	-0.215	-0.096	-0.068	-0.003
24.2	294.419	137.487	10.5924	0.138	0.050	-0.235	-0.101	-0.068	-0.001
24.4	322.669	145.046	10.8148	0.148	0.050	-0.256	-0.105	-0.068	0.001
24.6	352.451	152.816	11.0368	0.158	0.051	-0.277	-0.110	-0.068	0.002
24.8	383.809	160.794	11.2582	0.169	0.052	-0.300	-0.116	-0.067	0.004
25.0	416.783	168.979	11.4789	0.179	0.053	-0.323	-0.121	-0.066	0.005
25.2	451.414	177.365	11.6987	0.190	0.054	-0.348	-0.127	-0.065	0.006
25.4	487.742	185.946	11.9175	0.201	0.054	-0.374	-0.133	-0.064	0.007
25.6	525.805	194.713	12.1352	0.212	0.055	-0.402	-0.140	-0.062	0.008
25.8	565.639	203.653	12.3514	0.223	0.056	-0.430	-0.147	-0.061	0.009
26.0	607.277	212.753	12.5661	0.234	0.057	-0.460	-0.155	-0.059	0.009
26.2	650.749	221.992	12.7791	0.245	0.057	-0.492	-0.163	-0.057	0.010
26.4	696.082	231.349	12.9902	0.257	0.058	-0.526	-0.172	-0.055	0.010

METHANE ISOTHERM 170.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	X8	DX8/DD	XC	DXC/DD	XD	DXD/DD
0.2	2.746	13.330	0.0170	0.263	-0.400	-0.471	1.012	-0.307	0.270
0.4	5.333	12.543	0.0349	0.203	-0.237	-0.331	0.499	-0.264	0.184
0.6	7.764	11.762	0.0537	0.163	-0.173	-0.251	0.326	-0.230	0.153
0.8	10.039	10.990	0.0733	0.132	-0.138	-0.195	0.238	-0.201	0.137
1.0	12.161	10.235	0.0939	0.107	-0.114	-0.153	0.186	-0.175	0.127
1.2	14.134	9.499	0.1154	0.086	-0.098	-0.120	0.151	-0.150	0.122
1.4	15.962	8.785	0.1379	0.068	-0.085	-0.092	0.126	-0.126	0.120
1.6	17.649	8.092	0.1614	0.051	-0.076	-0.069	0.107	-0.102	0.119
1.8	19.200	7.419	0.1859	0.037	-0.068	-0.049	0.093	-0.079	0.119
2.0	20.618	6.764	0.2115	0.024	-0.061	-0.032	0.081	-0.055	0.120
2.2	21.907	6.124	0.2383	0.013	-0.055	-0.016	0.072	-0.030	0.123
2.4	23.069	5.499	0.2664	0.002	-0.050	-0.003	0.064	-0.006	0.126
19.4	24.017	26.105	5.5047	0.001	0.029	-0.001	-0.037	-0.001	-0.052
19.6	29.536	29.105	5.6881	0.007	0.030	-0.009	-0.038	-0.011	-0.048
19.8	35.670	32.270	5.8735	0.013	0.031	-0.016	-0.040	-0.021	-0.044
20.0	42.455	35.602	6.0608	0.019	0.032	-0.025	-0.042	-0.029	-0.041
20.2	49.923	39.106	6.2500	0.025	0.033	-0.033	-0.044	-0.037	-0.038
20.4	58.109	42.782	6.4412	0.032	0.034	-0.042	-0.045	-0.044	-0.035
20.6	67.047	46.636	6.6343	0.039	0.034	-0.051	-0.047	-0.051	-0.031
20.8	76.775	50.668	6.8293	0.046	0.035	-0.061	-0.049	-0.057	-0.028
21.0	87.327	54.881	7.0261	0.053	0.036	-0.071	-0.052	-0.062	-0.026
21.2	98.739	59.277	7.2246	0.060	0.037	-0.082	-0.054	-0.067	-0.023
21.4	111.050	63.858	7.4248	0.068	0.038	-0.093	-0.056	-0.071	-0.020
21.6	124.295	68.625	7.6266	0.076	0.039	-0.104	-0.058	-0.075	-0.017
21.8	138.512	73.582	7.8299	0.083	0.040	-0.116	-0.061	-0.078	-0.015
22.0	153.740	78.729	8.0346	0.091	0.040	-0.128	-0.063	-0.081	-0.013
22.2	170.017	84.068	8.2406	0.100	0.041	-0.141	-0.066	-0.083	-0.010
22.4	187.380	89.600	8.4479	0.108	0.042	-0.155	-0.069	-0.085	-0.008
22.6	205.870	95.328	8.6563	0.116	0.043	-0.169	-0.072	-0.087	-0.006
22.8	225.525	101.254	8.8657	0.125	0.044	-0.183	-0.075	-0.087	-0.004
23.0	246.384	107.378	9.0761	0.134	0.045	-0.199	-0.078	-0.088	-0.002
23.2	268.489	113.703	9.2872	0.143	0.045	-0.214	-0.081	-0.088	-0.000
23.4	291.879	120.229	9.4990	0.152	0.046	-0.231	-0.085	-0.088	0.001
23.6	316.594	126.959	9.7114	0.161	0.047	-0.248	-0.088	-0.088	0.003
23.8	342.676	133.894	9.9243	0.171	0.048	-0.266	-0.092	-0.087	0.004
24.0	370.166	141.034	10.1374	0.181	0.049	-0.285	-0.096	-0.086	0.006
24.2	399.104	148.379	10.3508	0.191	0.050	-0.305	-0.101	-0.085	0.007
24.4	429.531	155.929	10.5642	0.201	0.050	-0.326	-0.105	-0.083	0.008
24.6	461.489	163.684	10.7776	0.211	0.051	-0.347	-0.110	-0.082	0.009
24.8	495.018	171.641	10.9908	0.221	0.052	-0.370	-0.116	-0.080	0.010
25.0	530.159	179.796	11.2036	0.231	0.053	-0.393	-0.121	-0.078	0.011
25.2	566.950	188.146	11.4160	0.242	0.054	-0.418	-0.127	-0.076	0.011
25.4	605.429	196.682	11.6277	0.253	0.054	-0.444	-0.133	-0.073	0.012
25.6	645.634	205.395	11.8387	0.264	0.055	-0.472	-0.140	-0.071	0.012
25.8	687.598	214.275	12.0488	0.275	0.056	-0.500	-0.147	-0.068	0.013

METHANE ISOTHERM 180.0 DEG. K

MDL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	7.009	13.085	0.0440	0.234	-0.199	-0.349	0.395	-0.285	0.129
1.0	13.095	11.275	0.0930	0.159	-0.114	-0.215	0.186	-0.232	0.093
1.5	18.305	9.588	0.1470	0.112	-0.080	-0.142	0.116	-0.189	0.082
2.0	22.705	8.034	0.2063	0.077	-0.061	-0.094	0.081	-0.149	0.079
2.5	26.358	6.594	0.2709	0.050	-0.048	-0.059	0.060	-0.109	0.078
3.0	29.316	5.256	0.3412	0.028	-0.039	-0.032	0.046	-0.070	0.080
3.5	31.630	4.014	0.4178	0.010	-0.032	-0.012	0.037	-0.029	0.083
17.5	36.109	12.746	4.0606	0.006	0.021	-0.006	-0.024	-0.014	-0.048
18.0	43.599	17.343	4.4278	0.017	0.023	-0.019	-0.027	-0.036	-0.041
18.5	53.591	22.770	4.8110	0.029	0.025	-0.033	-0.030	-0.055	-0.036
19.0	66.519	29.098	5.2109	0.042	0.027	-0.049	-0.034	-0.072	-0.030
19.5	82.849	36.385	5.6271	0.056	0.030	-0.067	-0.038	-0.085	-0.025
20.0	103.073	44.684	6.0590	0.071	0.032	-0.087	-0.042	-0.096	-0.019
20.5	127.708	54.036	6.5058	0.088	0.034	-0.109	-0.046	-0.105	-0.014
21.0	157.291	64.477	6.9662	0.105	0.036	-0.133	-0.052	-0.111	-0.009
21.5	192.372	76.037	7.4390	0.124	0.038	-0.160	-0.057	-0.114	-0.004
22.0	233.519	88.742	7.9227	0.144	0.040	-0.191	-0.063	-0.115	-0.000
22.5	281.309	102.616	8.4160	0.164	0.043	-0.224	-0.070	-0.114	0.004
23.0	336.334	117.686	8.9172	0.186	0.045	-0.261	-0.078	-0.111	0.007
23.5	399.198	133.973	9.4247	0.209	0.047	-0.302	-0.087	-0.107	0.010
24.0	470.514	151.498	9.9368	0.233	0.049	-0.348	-0.096	-0.101	0.012
24.5	550.903	170.268	10.4517	0.258	0.051	-0.399	-0.108	-0.095	0.014
25.0	640.986	190.264	10.9676	0.284	0.053	-0.456	-0.121	-0.087	0.015

METHANE ISOTHERM 190.0 DEG. K

MDL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	7.448	14.010	0.0438	0.286	-0.199	-0.405	0.395	-0.317	0.100
1.0	14.021	12.297	0.0922	0.211	-0.114	-0.271	0.186	-0.277	0.067
1.5	19.766	10.707	0.1452	0.164	-0.080	-0.198	0.116	-0.247	0.056
2.0	24.750	9.249	0.2028	0.129	-0.061	-0.150	0.081	-0.221	0.051
2.5	29.034	7.907	0.2647	0.102	-0.048	-0.115	0.060	-0.196	0.048
3.0	32.674	6.668	0.3311	0.080	-0.039	-0.088	0.046	-0.172	0.046
3.5	35.718	5.529	0.4016	0.062	-0.032	-0.067	0.037	-0.150	0.045
4.0	38.220	4.496	0.4762	0.048	-0.026	-0.051	0.029	-0.128	0.043
4.5	40.233	3.575	0.5546	0.036	-0.021	-0.038	0.023	-0.107	0.041
5.0	41.815	2.772	0.6366	0.027	-0.017	-0.028	0.019	-0.087	0.039
5.5	43.024	2.084	0.7219	0.019	-0.014	-0.019	0.015	-0.068	0.037
6.0	43.917	1.504	0.8104	0.012	-0.011	-0.013	0.012	-0.050	0.035
6.5	44.544	1.021	0.9021	0.007	-0.009	-0.008	0.009	-0.033	0.033
7.0	44.952	0.623	0.9975	0.003	-0.007	-0.003	0.007	-0.017	0.031
7.5	45.180	0.301	1.0996	0.000	-0.005	-0.000	0.005	-0.002	0.028
13.0	45.342	0.642	1.9949	0.001	0.005	-0.001	-0.005	-0.007	-0.024
13.5	45.806	1.254	2.1663	0.004	0.007	-0.004	-0.007	-0.019	-0.026
14.0	46.636	2.106	2.3515	0.008	0.008	-0.008	-0.008	-0.032	-0.027
14.5	47.961	3.247	2.5534	0.012	0.010	-0.013	-0.010	-0.046	-0.027
15.0	49.939	4.729	2.7734	0.018	0.012	-0.018	-0.012	-0.059	-0.027
15.5	52.757	6.615	3.0126	0.024	0.013	-0.025	-0.014	-0.073	-0.027
16.0	56.632	8.971	3.2713	0.031	0.015	-0.032	-0.016	-0.086	-0.025
16.5	61.818	11.868	3.5500	0.039	0.017	-0.041	-0.019	-0.098	-0.024
17.0	68.603	15.380	3.8487	0.048	0.019	-0.051	-0.021	-0.110	-0.022
17.5	77.313	19.580	4.1672	0.058	0.021	-0.062	-0.024	-0.120	-0.019
18.0	88.310	24.540	4.5053	0.069	0.023	-0.075	-0.027	-0.129	-0.017
18.5	101.991	30.329	4.8625	0.081	0.025	-0.089	-0.030	-0.137	-0.014
19.0	118.786	37.006	5.2380	0.094	0.027	-0.105	-0.034	-0.143	-0.010
19.5	139.155	44.628	5.6310	0.108	0.030	-0.123	-0.038	-0.147	-0.007
20.0	163.580	53.242	6.0404	0.123	0.032	-0.143	-0.042	-0.150	-0.003
20.5	192.568	62.886	6.4653	0.140	0.034	-0.165	-0.046	-0.150	0.000
21.0	226.644	73.595	6.9044	0.157	0.036	-0.189	-0.052	-0.149	0.004
21.5	266.345	85.395	7.3563	0.176	0.038	-0.216	-0.057	-0.147	0.007
22.0	312.225	98.312	7.8199	0.196	0.040	-0.246	-0.063	-0.143	0.010
22.5	364.847	112.369	8.2936	0.217	0.043	-0.280	-0.070	-0.137	0.012
23.0	424.788	127.589	8.7761	0.238	0.045	-0.316	-0.078	-0.130	0.015
23.5	492.634	143.996	9.2658	0.261	0.047	-0.358	-0.087	-0.122	0.016
24.0	568.985	161.607	9.7611	0.285	0.049	-0.403	-0.096	-0.114	0.018
24.5	654.443	180.429	10.2604	0.310	0.051	-0.454	-0.108	-0.105	0.019

METHANE ISOTHERM 200.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	7.885	14.930	0.0437	0.338	-0.199	-0.455	0.395	-0.344	0.077
1.0	14.940	13.305	0.0917	0.263	-0.114	-0.321	0.186	-0.315	0.047
1.5	21.211	11.801	0.1438	0.216	-0.080	-0.248	0.116	-0.294	0.036
2.0	26.763	10.429	0.2001	0.181	-0.061	-0.200	0.081	-0.278	0.031
2.5	31.659	9.169	0.2604	0.154	-0.048	-0.165	0.060	-0.263	0.027
3.0	35.949	8.009	0.3245	0.132	-0.039	-0.138	0.046	-0.250	0.025
3.5	39.683	6.944	0.3921	0.114	-0.032	-0.118	0.037	-0.238	0.022
4.0	42.910	5.979	0.4629	0.100	-0.026	-0.101	0.029	-0.228	0.020
4.5	45.680	5.120	0.5366	0.088	-0.021	-0.088	0.023	-0.219	0.017
5.0	48.048	4.369	0.6129	0.079	-0.017	-0.078	0.019	-0.211	0.015
5.5	50.067	3.724	0.6913	0.071	-0.014	-0.070	0.015	-0.204	0.012
6.0	51.789	3.178	0.7713	0.065	-0.011	-0.063	0.012	-0.198	0.010
6.5	53.259	2.717	0.8527	0.059	-0.009	-0.058	0.009	-0.194	0.008
7.0	54.518	2.330	0.9351	0.055	-0.007	-0.054	0.007	-0.190	0.005
7.5	55.600	2.008	1.0184	0.052	-0.005	-0.050	0.005	-0.188	0.003
8.0	56.538	1.759	1.1027	0.050	-0.003	-0.048	0.003	-0.188	-0.000
8.5	57.375	1.606	1.1884	0.049	-0.001	-0.047	0.001	-0.189	-0.003
9.0	58.164	1.569	1.2764	0.049	-0.000	-0.047	0.000	-0.190	-0.003
9.5	58.955	1.602	1.3676	0.049	-0.000	-0.047	0.000	-0.191	-0.001
10.0	59.770	1.661	1.4629	0.049	0.000	-0.047	0.000	-0.191	0.000
10.5	60.619	1.739	1.5631	0.049	0.000	-0.047	-0.000	-0.191	0.001
11.0	61.514	1.847	1.6689	0.049	0.000	-0.047	-0.000	-0.190	0.003
11.5	62.479	2.031	1.7813	0.049	0.001	-0.047	-0.001	-0.188	0.004
12.0	63.570	2.361	1.9018	0.050	0.002	-0.048	-0.002	-0.186	0.003
12.5	64.871	2.875	2.0324	0.051	0.003	-0.049	-0.003	-0.185	0.002
13.0	66.479	3.595	2.1751	0.053	0.005	-0.051	-0.005	-0.185	-0.000
13.5	68.504	4.544	2.3318	0.056	0.007	-0.054	-0.007	-0.185	-0.002
14.0	71.067	5.756	2.5040	0.060	0.008	-0.058	-0.008	-0.187	-0.003
14.5	74.310	7.271	2.6930	0.064	0.010	-0.063	-0.010	-0.189	-0.004
15.0	78.397	9.140	2.8999	0.070	0.012	-0.068	-0.012	-0.191	-0.005
15.5	83.519	11.421	3.1256	0.076	0.013	-0.075	-0.014	-0.193	-0.005
16.0	89.897	14.177	3.3704	0.083	0.015	-0.082	-0.016	-0.195	-0.005
16.5	97.786	17.475	3.6346	0.091	0.017	-0.091	-0.019	-0.198	-0.004
17.0	107.474	21.386	3.9185	0.100	0.019	-0.101	-0.021	-0.199	-0.003
17.5	119.286	25.980	4.2218	0.110	0.021	-0.112	-0.024	-0.201	-0.002
18.0	133.579	31.325	4.5441	0.121	0.023	-0.125	-0.027	-0.201	-0.000
18.5	153.746	37.485	4.8852	0.133	0.025	-0.139	-0.030	-0.201	0.002
19.0	171.210	44.519	5.2442	0.146	0.027	-0.155	-0.034	-0.199	0.004
19.5	195.420	52.480	5.6204	0.160	0.030	-0.173	-0.038	-0.196	0.006
20.0	223.852	61.413	6.0130	0.176	0.032	-0.193	-0.042	-0.193	0.009
20.5	257.001	71.354	6.4208	0.192	0.034	-0.215	-0.046	-0.188	0.011
21.0	295.379	82.335	6.8429	0.209	0.036	-0.239	-0.052	-0.181	0.014
21.5	339.514	94.382	7.2780	0.228	0.038	-0.266	-0.057	-0.174	0.016
22.0	389.943	107.520	7.7250	0.248	0.040	-0.296	-0.063	-0.166	0.018
22.5	447.219	121.771	8.1825	0.269	0.043	-0.330	-0.070	-0.156	0.019
23.0	511.904	137.157	8.6493	0.290	0.045	-0.367	-0.078	-0.146	0.021
23.5	584.570	153.701	9.1239	0.313	0.047	-0.408	-0.087	-0.135	0.022
24.0	665.800	171.418	9.6049	0.337	0.049	-0.453	-0.096	-0.124	0.022

METHANE ISOTHERM 210.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	8.322	15.844	0.0436	0.390	-0.199	-0.500	0.395	-0.366	0.058
1.0	15.854	14.302	0.0912	0.315	-0.114	-0.367	0.186	-0.345	0.031
1.5	22.644	12.879	0.1428	0.268	-0.080	-0.294	0.116	-0.333	0.020
2.0	28.754	11.584	0.1981	0.233	-0.061	-0.245	0.081	-0.324	0.015
2.5	34.246	10.399	0.2572	0.206	-0.048	-0.210	0.060	-0.317	0.012
3.0	39.169	9.308	0.3197	0.184	-0.039	-0.184	0.046	-0.312	0.009
3.5	43.569	8.309	0.3855	0.166	-0.032	-0.163	0.037	-0.308	0.007
4.0	47.493	7.403	0.4543	0.152	-0.026	-0.147	0.029	-0.305	0.005
4.5	50.989	6.596	0.5258	0.140	-0.021	-0.134	0.023	-0.303	0.003
5.0	54.107	5.851	0.5998	0.131	-0.017	-0.123	0.019	-0.302	0.001
5.5	56.897	5.266	0.6760	0.123	-0.014	-0.115	0.015	-0.302	-0.000
6.0	59.408	4.774	0.7543	0.116	-0.011	-0.108	0.012	-0.302	-0.001
6.5	61.685	4.345	0.8345	0.111	-0.009	-0.103	0.009	-0.303	-0.002
7.0	63.765	3.988	0.9166	0.107	-0.007	-0.099	0.007	-0.304	-0.003
7.5	65.684	3.699	1.0008	0.104	-0.005	-0.096	0.005	-0.305	-0.003
8.0	67.478	3.490	1.0874	0.102	-0.003	-0.094	0.003	-0.307	-0.004
8.5	69.192	3.389	1.1769	0.101	-0.001	-0.093	0.001	-0.309	-0.005
9.0	70.889	3.419	1.2699	0.101	-0.000	-0.093	0.000	-0.311	-0.004
9.5	72.626	3.538	1.3672	0.101	-0.000	-0.093	0.000	-0.313	-0.001
10.0	74.434	3.696	1.4695	0.101	0.000	-0.093	0.000	-0.313	0.000
10.5	76.328	3.886	1.5773	0.101	0.000	-0.093	-0.000	-0.313	0.001
11.0	78.327	4.122	1.6915	0.101	0.000	-0.093	-0.000	-0.311	0.004
11.5	80.466	4.455	1.8127	0.101	0.001	-0.093	-0.001	-0.309	0.006
12.0	82.811	4.962	1.9420	0.102	0.002	-0.093	-0.002	-0.306	0.006
12.5	85.464	5.686	2.0808	0.103	0.003	-0.095	-0.003	-0.303	0.006
13.0	88.537	6.648	2.2303	0.105	0.005	-0.097	-0.005	-0.300	0.007
13.5	92.155	7.870	2.3920	0.108	0.007	-0.100	-0.007	-0.296	0.007
14.0	96.455	9.382	2.5671	0.112	0.008	-0.104	-0.008	-0.293	0.007
14.5	101.591	11.221	2.7569	0.116	0.010	-0.108	-0.010	-0.290	0.007
15.0	107.739	13.435	2.9624	0.122	0.012	-0.114	-0.012	-0.286	0.007
15.5	115.097	16.074	3.1846	0.128	0.013	-0.120	-0.014	-0.282	0.008
16.0	123.894	19.200	3.4241	0.135	0.015	-0.128	-0.016	-0.278	0.008
16.5	134.388	22.874	3.6815	0.143	0.017	-0.137	-0.019	-0.274	0.009
17.0	146.870	27.162	3.9569	0.152	0.019	-0.146	-0.021	-0.269	0.010
17.5	161.663	32.130	4.2506	0.162	0.021	-0.158	-0.024	-0.264	0.011
18.0	179.124	37.843	4.5622	0.173	0.023	-0.170	-0.027	-0.258	0.012
18.5	199.641	44.362	4.8916	0.185	0.025	-0.185	-0.030	-0.252	0.014
19.0	223.630	51.742	5.2382	0.198	0.027	-0.200	-0.034	-0.245	0.015
19.5	251.535	60.034	5.6014	0.212	0.030	-0.218	-0.038	-0.237	0.017
20.0	283.823	69.279	5.9805	0.227	0.032	-0.238	-0.042	-0.228	0.018
20.5	320.979	79.513	6.3745	0.244	0.034	-0.260	-0.046	-0.218	0.020
21.0	363.506	90.766	6.7826	0.261	0.036	-0.285	-0.052	-0.208	0.022
21.5	411.919	103.063	7.2037	0.280	0.038	-0.312	-0.057	-0.197	0.023
22.0	466.747	116.427	7.6367	0.300	0.040	-0.342	-0.063	-0.185	0.024
22.5	528.527	130.879	8.0804	0.320	0.043	-0.375	-0.070	-0.172	0.025
23.0	597.810	146.441	8.5338	0.342	0.045	-0.412	-0.078	-0.160	0.026
23.5	675.156	163.133	8.9955	0.365	0.047	-0.453	-0.087	-0.147	0.026

METHANE ISOTHERM 220.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	X8	DX8/DD	XC	DXC/DD	XD	DXD/DD
0.5	8.757	16.754	0.0435	0.441	-0.199	-0.541	0.395	-0.385	0.043
1.0	16.764	15.290	0.0908	0.367	-0.114	-0.408	0.186	-0.371	0.017
1.5	24.067	13.942	0.1419	0.319	-0.080	-0.335	0.116	-0.365	0.008
2.0	30.728	12.720	0.1965	0.284	-0.061	-0.286	0.081	-0.362	0.003
2.5	36.805	11.605	0.2547	0.257	-0.048	-0.251	0.060	-0.362	-0.000
3.0	42.347	10.580	0.3161	0.236	-0.039	-0.225	0.046	-0.362	-0.002
3.5	47.399	9.642	0.3807	0.218	-0.032	-0.204	0.037	-0.364	-0.004
4.0	52.004	8.793	0.4482	0.204	-0.026	-0.188	0.029	-0.366	-0.006
4.5	56.208	8.038	0.5184	0.192	-0.021	-0.175	0.023	-0.370	-0.007
5.0	60.059	7.381	0.5911	0.182	-0.017	-0.165	0.019	-0.373	-0.008
5.5	63.606	6.821	0.6663	0.174	-0.014	-0.156	0.015	-0.377	-0.008
6.0	66.896	6.353	0.7439	0.168	-0.011	-0.150	0.012	-0.381	-0.008
6.5	69.973	5.968	0.8238	0.163	-0.009	-0.144	0.009	-0.386	-0.008
7.0	72.876	5.657	0.9063	0.159	-0.007	-0.140	0.007	-0.389	-0.007
7.5	75.642	5.420	0.9915	0.156	-0.005	-0.137	0.005	-0.393	-0.007
8.0	78.311	5.270	1.0798	0.154	-0.003	-0.135	0.003	-0.396	-0.006
8.5	80.932	5.240	1.1716	0.153	-0.001	-0.134	0.001	-0.399	-0.006
9.0	83.575	5.354	1.2676	0.153	-0.000	-0.134	0.000	-0.401	-0.004
9.5	86.304	5.571	1.3683	0.153	-0.000	-0.134	0.000	-0.403	-0.001
10.0	89.154	5.839	1.4744	0.153	0.000	-0.134	0.000	-0.403	0.000
10.5	92.150	6.151	1.5865	0.153	0.000	-0.134	-0.000	-0.403	0.001
11.0	95.315	6.523	1.7052	0.153	0.000	-0.134	-0.000	-0.401	0.004
11.5	98.691	7.009	1.8311	0.153	0.001	-0.134	-0.001	-0.399	0.006
12.0	102.356	7.689	1.9652	0.154	0.002	-0.135	-0.002	-0.395	0.008
12.5	106.421	8.610	2.1084	0.155	0.003	-0.136	-0.003	-0.391	0.009
13.0	111.010	9.794	2.2619	0.157	0.005	-0.138	-0.005	-0.386	0.011
13.5	116.262	11.262	2.4266	0.160	0.007	-0.141	-0.007	-0.380	0.012
14.0	122.324	13.043	2.6038	0.164	0.008	-0.145	-0.008	-0.374	0.013
14.5	129.363	15.173	2.7944	0.168	0.010	-0.149	-0.010	-0.367	0.014
15.0	137.563	17.696	2.9994	0.173	0.012	-0.155	-0.012	-0.360	0.015
15.5	147.133	20.662	3.2196	0.180	0.013	-0.162	-0.014	-0.352	0.016
16.0	158.307	24.125	3.4558	0.187	0.015	-0.169	-0.016	-0.344	0.017
16.5	171.350	28.145	3.7084	0.195	0.017	-0.178	-0.019	-0.335	0.018
17.0	186.555	32.784	3.9778	0.204	0.019	-0.188	-0.021	-0.326	0.019
17.5	204.247	38.103	4.2643	0.213	0.021	-0.199	-0.024	-0.316	0.020
18.0	224.782	44.164	4.5677	0.224	0.023	-0.212	-0.027	-0.305	0.021
18.5	248.545	51.024	4.8879	0.236	0.025	-0.226	-0.030	-0.294	0.023
19.0	275.948	58.736	5.2245	0.250	0.027	-0.242	-0.034	-0.283	0.024
19.5	307.431	67.347	5.5771	0.264	0.030	-0.259	-0.038	-0.271	0.025
20.0	343.452	76.896	5.9449	0.279	0.032	-0.279	-0.042	-0.258	0.026
20.5	384.489	87.418	6.3274	0.296	0.034	-0.301	-0.046	-0.244	0.027
21.0	431.036	98.939	6.7237	0.313	0.036	-0.326	-0.052	-0.230	0.028
21.5	483.599	111.485	7.1328	0.332	0.038	-0.353	-0.057	-0.216	0.029
22.0	542.695	125.076	7.5538	0.351	0.040	-0.383	-0.063	-0.201	0.030
22.5	608.852	139.733	7.9856	0.372	0.043	-0.416	-0.070	-0.186	0.030
23.0	682.609	155.478	8.4273	0.394	0.045	-0.453	-0.078	-0.171	0.030

METHANE ISOTHERM 240.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	X8	DX8/DD	XC	DXC/DD	XD	DXD/DD
0.5	9.625	18.564	0.0433	0.544	-0.199	-0.613	0.395	-0.414	0.018
1.0	18.574	17.245	0.0902	0.470	-0.114	-0.480	0.186	-0.412	-0.003
1.5	26.890	16.039	0.1405	0.422	-0.080	-0.407	0.116	-0.415	-0.011
2.0	34.633	14.953	0.1941	0.387	-0.061	-0.359	0.081	-0.422	-0.015
2.5	41.859	13.968	0.2510	0.360	-0.048	-0.324	0.060	-0.430	-0.017
3.0	48.615	13.068	0.3110	0.338	-0.039	-0.297	0.046	-0.439	-0.019
3.5	54.941	12.249	0.3739	0.321	-0.032	-0.276	0.037	-0.449	-0.020
4.0	60.877	11.513	0.4398	0.306	-0.026	-0.260	0.029	-0.459	-0.020
4.5	66.469	10.867	0.5085	0.295	-0.021	-0.247	0.023	-0.469	-0.020
5.0	71.760	10.315	0.5799	0.285	-0.017	-0.237	0.019	-0.479	-0.020
5.5	76.799	9.859	0.6541	0.277	-0.014	-0.228	0.015	-0.488	-0.019
6.0	81.634	9.496	0.7312	0.271	-0.011	-0.222	0.012	-0.497	-0.017
6.5	86.310	9.222	0.8112	0.266	-0.009	-0.216	0.009	-0.505	-0.015
7.0	90.871	9.032	0.8944	0.262	-0.007	-0.212	0.007	-0.512	-0.013
7.5	95.357	8.927	0.9810	0.259	-0.005	-0.209	0.005	-0.518	-0.011
8.0	99.814	8.924	1.0715	0.257	-0.003	-0.207	0.003	-0.523	-0.009
8.5	104.303	9.060	1.1661	0.256	-0.001	-0.206	0.001	-0.527	-0.007
9.0	108.903	9.365	1.2654	0.256	-0.000	-0.206	0.000	-0.530	-0.004
9.5	113.690	9.795	1.3700	0.256	-0.000	-0.206	0.000	-0.531	-0.001
10.0	118.710	10.298	1.4804	0.256	0.000	-0.206	0.000	-0.531	0.000
10.5	123.998	10.868	1.5970	0.256	0.000	-0.206	-0.000	-0.531	0.001
11.0	129.591	11.520	1.7204	0.256	0.000	-0.206	-0.000	-0.530	0.004
11.5	135.542	12.314	1.8513	0.256	0.001	-0.206	-0.001	-0.527	0.007
12.0	141.944	13.336	1.9901	0.256	0.002	-0.207	-0.002	-0.523	0.010
12.5	148.924	14.633	2.1378	0.258	0.003	-0.208	-0.003	-0.517	0.013
13.0	156.627	16.230	2.2951	0.260	0.005	-0.210	-0.005	-0.510	0.015
13.5	165.208	18.149	2.4627	0.263	0.007	-0.213	-0.007	-0.501	0.018
14.0	174.834	20.418	2.6415	0.266	0.008	-0.217	-0.008	-0.492	0.021
14.5	185.690	23.071	2.8323	0.271	0.010	-0.222	-0.010	-0.481	0.023
15.0	197.976	26.149	3.0358	0.276	0.012	-0.227	-0.012	-0.469	0.025
15.5	211.917	29.698	3.2528	0.282	0.013	-0.234	-0.014	-0.456	0.027
16.0	227.761	33.769	3.4837	0.289	0.015	-0.241	-0.016	-0.442	0.029
16.5	245.782	38.414	3.7292	0.297	0.017	-0.250	-0.019	-0.427	0.031
17.0	266.281	43.690	3.9896	0.306	0.019	-0.260	-0.021	-0.411	0.032
17.5	289.587	49.653	4.2651	0.316	0.021	-0.271	-0.024	-0.394	0.034
18.0	316.057	56.355	4.5558	0.327	0.023	-0.284	-0.027	-0.377	0.035
18.5	346.074	63.850	4.8618	0.339	0.025	-0.298	-0.030	-0.360	0.036
19.0	380.046	72.183	5.1828	0.352	0.027	-0.314	-0.034	-0.342	0.037
19.5	418.404	81.397	5.5185	0.367	0.030	-0.332	-0.038	-0.323	0.037
20.0	461.596	91.527	5.8686	0.382	0.032	-0.351	-0.042	-0.304	0.038
20.5	510.088	102.601	6.2324	0.398	0.034	-0.374	-0.046	-0.285	0.038
21.0	564.359	114.646	6.6094	0.416	0.036	-0.398	-0.052	-0.266	0.039
21.5	624.900	127.682	6.9988	0.434	0.038	-0.425	-0.057	-0.246	0.039
22.0	692.210	141.729	7.4000	0.454	0.040	-0.455	-0.063	-0.227	0.038

METHANE ISOTHERM 260.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	10.491	20.364	0.0432	0.646	-0.199	-0.675	0.395	-0.437	0.001
1.0	20.373	19.180	0.0897	0.572	-0.114	-0.541	0.186	-0.442	-0.017
1.5	29.689	18.105	0.1395	0.524	-0.080	-0.468	0.116	-0.452	-0.024
2.0	38.497	17.146	0.1924	0.489	-0.061	-0.420	0.081	-0.465	-0.027
2.5	46.852	16.285	0.2484	0.462	-0.048	-0.385	0.060	-0.480	-0.029
3.0	54.796	15.506	0.3073	0.440	-0.039	-0.358	0.046	-0.494	-0.030
3.5	62.370	14.804	0.3693	0.423	-0.032	-0.337	0.037	-0.509	-0.030
4.0	69.614	14.184	0.4342	0.408	-0.026	-0.321	0.029	-0.524	-0.030
4.5	76.569	13.651	0.5019	0.396	-0.021	-0.308	0.023	-0.539	-0.029
5.0	83.281	13.214	0.5726	0.387	-0.017	-0.298	0.019	-0.553	-0.027
5.5	89.799	12.875	0.6463	0.379	-0.014	-0.289	0.015	-0.566	-0.025
6.0	96.173	12.635	0.7232	0.373	-0.011	-0.283	0.012	-0.578	-0.022
6.5	102.451	12.491	0.8033	0.368	-0.009	-0.278	0.009	-0.588	-0.020
7.0	108.680	12.440	0.8869	0.363	-0.007	-0.273	0.007	-0.597	-0.016
7.5	114.907	12.487	0.9744	0.360	-0.005	-0.270	0.005	-0.605	-0.013
8.0	121.186	12.651	1.0659	0.359	-0.003	-0.268	0.003	-0.611	-0.010
8.5	127.585	12.972	1.1620	0.358	-0.001	-0.267	0.001	-0.615	-0.007
9.0	134.190	13.481	1.2631	0.357	-0.000	-0.267	0.000	-0.618	-0.004
9.5	141.090	14.135	1.3696	0.357	-0.000	-0.267	0.000	-0.619	-0.001
10.0	148.340	14.881	1.4820	0.357	0.000	-0.267	0.000	-0.620	0.000
10.5	155.986	15.714	1.6008	0.357	0.000	-0.267	-0.000	-0.619	0.001
11.0	164.072	16.650	1.7264	0.357	0.000	-0.267	-0.000	-0.618	0.004
11.5	172.663	17.750	1.8593	0.357	0.001	-0.267	-0.001	-0.615	0.008
12.0	181.864	19.104	2.0001	0.358	0.002	-0.268	-0.002	-0.610	0.011
12.5	191.817	20.760	2.1494	0.359	0.003	-0.269	-0.003	-0.604	0.015
13.0	202.679	22.746	2.3078	0.361	0.005	-0.271	-0.005	-0.595	0.018
13.5	214.621	25.082	2.4760	0.364	0.007	-0.274	-0.007	-0.585	0.022
14.0	227.824	27.796	2.6546	0.368	0.008	-0.278	-0.008	-0.574	0.025
14.5	242.486	30.922	2.8442	0.373	0.010	-0.283	-0.010	-0.560	0.028
15.0	258.822	34.500	3.0456	0.378	0.012	-0.288	-0.012	-0.545	0.032
15.5	277.068	38.573	3.2591	0.384	0.013	-0.295	-0.014	-0.529	0.034
16.0	297.485	43.187	3.4855	0.391	0.015	-0.302	-0.016	-0.511	0.037
16.5	320.354	48.394	3.7250	0.399	0.017	-0.311	-0.019	-0.492	0.039
17.0	345.986	54.243	3.9781	0.408	0.019	-0.321	-0.021	-0.472	0.041
17.5	374.713	60.787	4.2450	0.418	0.021	-0.332	-0.024	-0.451	0.042
18.0	406.896	68.073	4.5258	0.429	0.023	-0.345	-0.027	-0.429	0.044
18.5	442.918	76.149	4.8207	0.441	0.025	-0.359	-0.030	-0.407	0.045
19.0	483.184	85.056	5.1294	0.454	0.027	-0.375	-0.034	-0.385	0.046
19.5	528.119	94.832	5.4519	0.468	0.030	-0.393	-0.038	-0.362	0.046
20.0	578.165	105.507	5.7878	0.484	0.032	-0.413	-0.042	-0.339	0.046
20.5	633.780	117.109	6.1368	0.500	0.034	-0.435	-0.046	-0.315	0.046
21.0	695.432	129.658	6.4983	0.518	0.036	-0.459	-0.052	-0.292	0.046

METHANE ISOTHERM 280.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	11.354	22.155	0.0431	0.746	-0.199	-0.727	0.395	-0.454	-0.013
1.0	22.164	21.098	0.0894	0.672	-0.114	-0.593	0.186	-0.465	-0.028
1.5	32.471	20.148	0.1387	0.624	-0.080	-0.520	0.116	-0.481	-0.034
2.0	42.331	19.311	0.1910	0.589	-0.061	-0.472	0.081	-0.498	-0.037
2.5	51.798	18.570	0.2463	0.562	-0.048	-0.437	0.060	-0.517	-0.038
3.0	60.914	17.909	0.3046	0.541	-0.039	-0.410	0.046	-0.536	-0.038
3.5	69.720	17.325	0.3658	0.523	-0.032	-0.390	0.037	-0.555	-0.037
4.0	78.253	16.822	0.4299	0.509	-0.026	-0.374	0.029	-0.573	-0.036
4.5	86.556	16.408	0.4970	0.497	-0.021	-0.361	0.023	-0.591	-0.034
5.0	94.677	16.092	0.5672	0.487	-0.017	-0.350	0.019	-0.608	-0.032
5.5	102.665	15.879	0.6405	0.480	-0.014	-0.342	0.015	-0.623	-0.029
6.0	110.573	15.770	0.7171	0.473	-0.011	-0.335	0.012	-0.637	-0.026
6.5	118.453	15.767	0.7971	0.468	-0.009	-0.330	0.009	-0.649	-0.022
7.0	126.357	15.866	0.8810	0.464	-0.007	-0.326	0.007	-0.659	-0.019
7.5	134.338	16.076	0.9688	0.461	-0.005	-0.323	0.005	-0.668	-0.015
8.0	142.455	16.417	1.0609	0.459	-0.003	-0.321	0.003	-0.674	-0.011
8.5	150.783	16.930	1.1577	0.458	-0.001	-0.320	0.001	-0.679	-0.008
9.0	159.420	17.649	1.2596	0.458	-0.000	-0.319	0.000	-0.682	-0.005
9.5	168.459	18.531	1.3670	0.458	-0.000	-0.319	0.000	-0.684	-0.001
10.0	177.968	19.522	1.4803	0.458	0.000	-0.319	0.000	-0.684	0.000
10.5	187.999	20.618	1.5999	0.458	0.000	-0.319	-0.000	-0.684	0.001
11.0	198.606	21.835	1.7263	0.458	0.000	-0.319	-0.000	-0.682	0.005
11.5	209.864	23.236	1.8598	0.458	0.001	-0.320	-0.001	-0.679	0.008
12.0	221.888	24.912	2.0011	0.459	0.002	-0.320	-0.002	-0.674	0.012
12.5	234.830	26.914	2.1506	0.460	0.003	-0.322	-0.003	-0.667	0.016
13.0	248.861	29.268	2.3089	0.462	0.005	-0.324	-0.005	-0.658	0.020
13.5	264.161	31.997	2.4764	0.465	0.007	-0.327	-0.007	-0.647	0.024
14.0	280.925	35.128	2.6538	0.469	0.008	-0.330	-0.008	-0.634	0.028
14.5	299.362	38.694	2.8415	0.473	0.010	-0.335	-0.010	-0.618	0.032
15.0	319.699	42.734	3.0402	0.478	0.012	-0.341	-0.012	-0.601	0.036
15.5	342.182	47.288	3.2502	0.485	0.013	-0.347	-0.014	-0.583	0.039
16.0	367.080	52.402	3.4721	0.492	0.015	-0.355	-0.016	-0.562	0.042
16.5	394.685	58.124	3.7062	0.500	0.017	-0.363	-0.019	-0.541	0.045
17.0	425.313	64.500	3.9528	0.509	0.019	-0.373	-0.021	-0.518	0.047
17.5	459.302	71.578	4.2122	0.518	0.021	-0.384	-0.024	-0.494	0.049
18.0	497.016	79.404	4.4846	0.529	0.023	-0.397	-0.027	-0.469	0.050
18.5	538.838	88.019	4.7701	0.541	0.025	-0.411	-0.030	-0.443	0.051
19.0	585.173	97.462	5.0685	0.555	0.027	-0.427	-0.034	-0.417	0.052
19.5	636.443	107.766	5.3798	0.569	0.030	-0.445	-0.038	-0.391	0.053
20.0	693.087	118.958	5.7039	0.584	0.032	-0.465	-0.042	-0.365	0.053

METHANE ISOTHERM 300.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	X8	DX8/DD	XC	DXC/DD	XD	DXD/DD
0.5	12.216	23.940	0.0431	0.845	-0.199	-0.772	0.395	-0.468	-0.023
1.0	23.949	23.003	0.0891	0.771	-0.114	-0.639	0.186	-0.483	-0.037
1.5	35.237	22.172	0.1380	0.723	-0.080	-0.566	0.116	-0.503	-0.041
2.0	46.140	21.454	0.1899	0.688	-0.061	-0.517	0.081	-0.524	-0.043
2.5	56.707	20.830	0.2447	0.661	-0.048	-0.482	0.060	-0.546	-0.044
3.0	66.983	20.286	0.3023	0.640	-0.039	-0.456	0.046	-0.568	-0.044
3.5	77.006	19.819	0.3629	0.622	-0.032	-0.435	0.037	-0.590	-0.043
4.0	86.815	19.434	0.4264	0.608	-0.026	-0.419	0.029	-0.611	-0.041
4.5	96.455	19.142	0.4930	0.596	-0.021	-0.406	0.023	-0.631	-0.039
5.0	105.974	18.951	0.5627	0.586	-0.017	-0.396	0.019	-0.649	-0.036
5.5	115.424	18.868	0.6355	0.579	-0.014	-0.387	0.015	-0.667	-0.033
6.0	124.861	18.898	0.7118	0.572	-0.011	-0.381	0.012	-0.682	-0.029
6.5	134.341	19.041	0.7917	0.567	-0.009	-0.375	0.009	-0.695	-0.025
7.0	143.921	19.297	0.8755	0.563	-0.007	-0.371	0.007	-0.707	-0.020
7.5	153.659	19.675	0.9633	0.560	-0.005	-0.368	0.005	-0.716	-0.016
8.0	163.620	20.197	1.0556	0.558	-0.003	-0.366	0.003	-0.723	-0.012
8.5	173.887	20.907	1.1526	0.557	-0.001	-0.365	0.001	-0.728	-0.008
9.0	184.564	21.838	1.2547	0.557	-0.000	-0.365	0.000	-0.731	-0.005
9.5	195.755	22.947	1.3622	0.557	-0.000	-0.365	0.000	-0.732	-0.001
10.0	207.532	24.183	1.4757	0.557	0.000	-0.365	0.000	-0.733	0.000
10.5	219.957	25.538	1.5954	0.557	0.000	-0.365	-0.000	-0.732	0.001
11.0	233.093	27.032	1.7218	0.557	0.000	-0.365	-0.000	-0.731	0.005
11.5	247.022	28.727	1.8552	0.557	0.001	-0.365	-0.001	-0.728	0.009
12.0	261.869	30.716	1.9961	0.558	0.002	-0.366	-0.002	-0.722	0.013
12.5	277.796	33.051	2.1450	0.559	0.003	-0.367	-0.003	-0.715	0.017
13.0	294.983	35.759	2.3023	0.561	0.005	-0.369	-0.005	-0.705	0.022
13.5	313.621	38.862	2.4684	0.564	0.007	-0.372	-0.007	-0.693	0.026
14.0	333.915	42.387	2.6439	0.568	0.008	-0.376	-0.008	-0.679	0.031
14.5	356.083	46.366	2.8293	0.572	0.010	-0.380	-0.010	-0.663	0.035
15.0	380.363	50.838	3.0249	0.577	0.012	-0.386	-0.012	-0.644	0.039
15.5	407.010	55.843	3.2313	0.584	0.013	-0.393	-0.014	-0.624	0.043
16.0	436.302	61.423	3.4488	0.591	0.015	-0.400	-0.016	-0.602	0.046
16.5	468.537	67.624	3.6777	0.599	0.017	-0.409	-0.019	-0.578	0.049
17.0	504.037	74.491	3.9183	0.608	0.019	-0.419	-0.021	-0.553	0.051
17.5	543.146	82.069	4.1710	0.618	0.021	-0.430	-0.024	-0.526	0.054
18.0	586.231	90.398	4.4358	0.628	0.023	-0.443	-0.027	-0.499	0.055
18.5	633.677	99.519	4.7129	0.641	0.025	-0.457	-0.030	-0.471	0.056
19.0	685.888	109.467	5.0023	0.654	0.027	-0.473	-0.034	-0.443	0.057

METHANE ISOTHERM 320.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	X8	DX8/DD	XC	DXC/DD	XD	DXD/DD
0.5	13.076	25.719	0.0430	0.943	-0.199	-0.812	0.395	-0.478	-0.032
1.0	25.727	24.898	0.0888	0.868	-0.114	-0.679	0.186	-0.498	-0.043
1.5	37.992	24.181	0.1375	0.821	-0.080	-0.605	0.116	-0.521	-0.047
2.0	49.928	23.578	0.1889	0.786	-0.061	-0.557	0.081	-0.545	-0.049
2.5	61.586	23.068	0.2432	0.759	-0.048	-0.522	0.060	-0.569	-0.049
3.0	73.009	22.640	0.3004	0.737	-0.039	-0.495	0.046	-0.594	-0.048
3.5	84.239	22.290	0.3604	0.720	-0.032	-0.475	0.037	-0.617	-0.047
4.0	95.313	22.025	0.4234	0.705	-0.026	-0.459	0.029	-0.640	-0.045
4.5	106.279	21.855	0.4895	0.693	-0.021	-0.446	0.023	-0.662	-0.042
5.0	117.186	21.792	0.5586	0.684	-0.017	-0.435	0.019	-0.682	-0.039
5.5	128.090	21.843	0.6311	0.676	-0.014	-0.427	0.015	-0.701	-0.035
6.0	139.049	22.014	0.7070	0.670	-0.011	-0.420	0.012	-0.717	-0.031
6.5	150.124	22.306	0.7866	0.664	-0.009	-0.415	0.009	-0.731	-0.026
7.0	161.376	22.723	0.8701	0.660	-0.007	-0.411	0.007	-0.743	-0.022
7.5	172.869	23.272	0.9577	0.657	-0.005	-0.408	0.005	-0.753	-0.017
8.0	184.674	23.977	1.0497	0.655	-0.003	-0.406	0.003	-0.760	-0.013
8.5	196.879	24.884	1.1465	0.654	-0.001	-0.405	0.001	-0.766	-0.009
9.0	209.597	26.026	1.2485	0.654	-0.000	-0.405	0.000	-0.769	-0.005
9.5	222.938	27.362	1.3558	0.654	-0.000	-0.405	0.000	-0.770	-0.002
10.0	236.982	28.838	1.4690	0.654	0.000	-0.405	0.000	-0.771	0.000
10.5	251.798	30.449	1.5883	0.654	0.000	-0.405	-0.000	-0.770	0.002
11.0	267.457	32.214	1.7141	0.654	0.000	-0.405	-0.000	-0.769	0.005
11.5	284.048	34.196	1.8468	0.654	0.001	-0.405	-0.001	-0.765	0.009
12.0	301.704	36.489	1.9868	0.655	0.002	-0.405	-0.002	-0.760	0.013
12.5	320.597	39.146	2.1344	0.656	0.003	-0.407	-0.003	-0.752	0.018
13.0	340.915	42.193	2.2902	0.658	0.005	-0.409	-0.005	-0.742	0.023
13.5	362.859	45.653	2.4545	0.661	0.007	-0.412	-0.007	-0.730	0.027
14.0	386.641	49.553	2.6278	0.665	0.008	-0.415	-0.008	-0.715	0.032
14.5	412.490	53.925	2.8105	0.669	0.010	-0.420	-0.010	-0.697	0.037
15.0	440.651	58.806	3.0029	0.675	0.012	-0.426	-0.012	-0.678	0.041
15.5	471.387	64.235	3.2054	0.681	0.013	-0.432	-0.014	-0.656	0.045
16.0	504.984	70.254	3.4185	0.688	0.015	-0.440	-0.016	-0.633	0.049
16.5	541.747	76.907	3.6424	0.696	0.017	-0.448	-0.019	-0.607	0.052
17.0	582.004	84.236	3.8774	0.705	0.019	-0.458	-0.021	-0.580	0.055
17.5	626.103	92.283	4.1238	0.715	0.021	-0.470	-0.024	-0.552	0.057
18.0	674.413	101.088	4.3816	0.726	0.023	-0.482	-0.027	-0.523	0.059

METHANE ISOTHERM 340.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	13.936	27.493	0.0429	1.039	-0.199	-0.847	0.395	-0.487	-0.038
1.0	27.501	26.783	0.0886	0.964	-0.114	-0.714	0.186	-0.510	-0.049
1.5	40.736	26.177	0.1370	0.916	-0.080	-0.640	0.116	-0.535	-0.052
2.0	53.698	25.685	0.1881	0.882	-0.061	-0.592	0.081	-0.561	-0.053
2.5	66.437	25.288	0.2420	0.854	-0.048	-0.557	0.060	-0.588	-0.053
3.0	79.000	24.974	0.2987	0.833	-0.039	-0.531	0.046	-0.614	-0.052
3.5	91.425	24.740	0.3582	0.815	-0.032	-0.510	0.037	-0.640	-0.050
4.0	103.754	24.594	0.4207	0.801	-0.026	-0.494	0.029	-0.664	-0.048
4.5	116.036	24.548	0.4862	0.789	-0.021	-0.481	0.023	-0.687	-0.045
5.0	128.321	24.614	0.5549	0.779	-0.017	-0.470	0.019	-0.709	-0.041
5.5	140.670	24.800	0.6269	0.772	-0.014	-0.462	0.015	-0.728	-0.037
6.0	153.143	25.114	0.7023	0.765	-0.011	-0.455	0.012	-0.745	-0.032
6.5	165.805	25.557	0.7815	0.760	-0.009	-0.450	0.009	-0.760	-0.027
7.0	178.722	26.135	0.8645	0.756	-0.007	-0.446	0.007	-0.773	-0.022
7.5	191.964	26.855	0.9517	0.753	-0.005	-0.443	0.005	-0.783	-0.018
8.0	205.606	27.744	1.0434	0.751	-0.003	-0.441	0.003	-0.790	-0.013
8.5	219.744	28.847	1.1397	0.750	-0.001	-0.440	0.001	-0.796	-0.009
9.0	234.495	30.199	1.2412	0.750	-0.000	-0.440	0.000	-0.799	-0.005
9.5	249.977	31.758	1.3479	0.750	-0.000	-0.440	0.000	-0.801	-0.002
10.0	266.279	33.471	1.4604	0.750	0.000	-0.440	0.000	-0.801	0.000
10.5	283.473	35.333	1.5789	0.750	0.000	-0.440	-0.000	-0.801	0.002
11.0	301.639	37.362	1.7038	0.750	0.000	-0.440	-0.000	-0.799	0.005
11.5	320.874	39.624	1.8354	0.750	0.001	-0.440	-0.001	-0.796	0.009
12.0	341.318	42.212	1.9741	0.751	0.002	-0.440	-0.002	-0.790	0.013
12.5	363.149	45.179	2.1202	0.752	0.003	-0.442	-0.003	-0.782	0.018
13.0	386.565	48.553	2.2742	0.754	0.005	-0.444	-0.005	-0.772	0.023
13.5	411.774	52.356	2.4363	0.757	0.007	-0.447	-0.007	-0.759	0.028
14.0	438.997	56.615	2.6071	0.761	0.008	-0.450	-0.008	-0.743	0.034
14.5	468.470	61.361	2.7868	0.765	0.010	-0.455	-0.010	-0.725	0.038
15.0	500.445	66.631	2.9758	0.770	0.012	-0.461	-0.012	-0.705	0.043
15.5	535.195	72.464	3.1746	0.777	0.013	-0.467	-0.014	-0.682	0.047
16.0	573.009	78.899	3.3833	0.784	0.015	-0.475	-0.016	-0.657	0.051
16.5	614.201	85.979	3.6023	0.792	0.017	-0.483	-0.019	-0.631	0.055
17.0	659.103	93.746	3.8318	0.801	0.019	-0.493	-0.021	-0.603	0.058

METHANE ISOTHERM 360.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	14.794	29.262	0.0429	1.132	-0.199	-0.878	0.395	-0.495	-0.044
1.0	29.271	28.659	0.0884	1.058	-0.114	-0.745	0.186	-0.519	-0.053
1.5	43.471	28.162	0.1365	1.010	-0.080	-0.672	0.116	-0.547	-0.056
2.0	57.451	27.778	0.1873	0.975	-0.061	-0.623	0.081	-0.575	-0.057
2.5	71.265	27.491	0.2408	0.948	-0.048	-0.588	0.060	-0.603	-0.056
3.0	84.957	27.229	0.2971	0.927	-0.039	-0.562	0.046	-0.631	-0.055
3.5	98.568	27.171	0.3561	0.909	-0.032	-0.541	0.037	-0.658	-0.053
4.0	112.142	27.144	0.4181	0.895	-0.026	-0.525	0.029	-0.683	-0.050
4.5	125.729	27.221	0.4832	0.883	-0.021	-0.512	0.023	-0.708	-0.047
5.0	139.383	27.416	0.5513	0.873	-0.017	-0.501	0.019	-0.730	-0.043
5.5	153.166	27.738	0.6228	0.865	-0.014	-0.493	0.015	-0.750	-0.038
6.0	167.143	28.194	0.6977	0.859	-0.011	-0.486	0.012	-0.768	-0.033
6.5	181.383	28.789	0.7763	0.854	-0.009	-0.481	0.009	-0.784	-0.028
7.0	195.956	29.528	0.8588	0.850	-0.007	-0.477	0.007	-0.796	-0.023
7.5	210.936	30.419	0.9455	0.847	-0.005	-0.474	0.005	-0.807	-0.018
8.0	226.406	31.491	1.0365	0.845	-0.003	-0.472	0.003	-0.815	-0.013
8.5	242.465	32.788	1.1323	0.844	-0.001	-0.471	0.001	-0.820	-0.009
9.0	259.237	34.346	1.2330	0.844	-0.000	-0.471	0.000	-0.824	-0.005
9.5	276.848	36.125	1.3389	0.844	-0.000	-0.471	0.000	-0.825	-0.002
10.0	295.390	38.070	1.4505	0.844	0.000	-0.471	0.000	-0.825	0.000
10.5	314.945	40.177	1.5680	0.844	0.000	-0.471	-0.000	-0.825	0.002
11.0	335.597	42.465	1.6917	0.844	0.000	-0.471	-0.000	-0.824	0.005
11.5	357.450	44.998	1.8219	0.844	0.001	-0.471	-0.001	-0.820	0.009
12.0	380.652	47.872	1.9590	0.844	0.002	-0.471	-0.002	-0.814	0.014
12.5	405.388	51.140	2.1033	0.846	0.003	-0.473	-0.003	-0.806	0.019
13.0	431.862	54.829	2.2551	0.848	0.005	-0.475	-0.005	-0.796	0.024
13.5	460.291	58.962	2.4149	0.851	0.007	-0.478	-0.007	-0.782	0.029
14.0	490.902	63.565	2.5830	0.854	0.008	-0.482	-0.008	-0.766	0.035
14.5	523.939	68.669	2.7596	0.859	0.010	-0.486	-0.010	-0.748	0.040
15.0	559.661	74.311	2.9452	0.864	0.012	-0.492	-0.012	-0.727	0.045
15.5	598.346	80.528	3.1400	0.870	0.013	-0.498	-0.014	-0.703	0.049
16.0	640.291	87.360	3.3444	0.878	0.015	-0.506	-0.016	-0.678	0.053
16.5	685.815	94.848	3.5586	0.885	0.017	-0.515	-0.019	-0.650	0.057

METHANE ISOTHERM 380.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	15.651	31.027	0.0428	1.224	-0.199	-0.906	0.395	-0.501	-0.048
1.0	31.036	30.528	0.0882	1.150	-0.114	-0.773	0.186	-0.527	-0.056
1.5	46.197	30.135	0.1361	1.102	-0.080	-0.699	0.116	-0.556	-0.059
2.0	61.190	29.857	0.1866	1.067	-0.061	-0.651	0.081	-0.586	-0.059
2.5	76.070	29.678	0.2397	1.040	-0.048	-0.616	0.060	-0.616	-0.059
3.0	90.883	29.587	0.2956	1.018	-0.039	-0.590	0.046	-0.645	-0.057
3.5	105.671	29.582	0.3542	1.001	-0.032	-0.569	0.037	-0.673	-0.055
4.0	120.481	29.673	0.4157	0.986	-0.026	-0.553	0.029	-0.699	-0.052
4.5	135.363	29.873	0.4802	0.975	-0.021	-0.540	0.023	-0.724	-0.048
5.0	150.375	30.196	0.5478	0.965	-0.017	-0.529	0.019	-0.748	-0.044
5.5	165.581	30.653	0.6188	0.957	-0.014	-0.521	0.015	-0.768	-0.039
6.0	181.052	31.252	0.6931	0.951	-0.011	-0.514	0.012	-0.787	-0.034
6.5	196.858	31.998	0.7711	0.946	-0.009	-0.509	0.009	-0.803	-0.029
7.0	213.075	32.896	0.8530	0.942	-0.007	-0.505	0.007	-0.816	-0.024
7.5	229.781	33.958	0.9390	0.939	-0.005	-0.502	0.005	-0.827	-0.019
8.0	247.064	35.209	1.0293	0.937	-0.003	-0.500	0.003	-0.835	-0.014
8.5	265.030	36.698	1.1242	0.936	-0.001	-0.499	0.001	-0.840	-0.009
9.0	283.808	38.460	1.2240	0.935	-0.000	-0.499	0.000	-0.844	-0.005
9.5	303.529	40.454	1.3290	0.935	-0.000	-0.499	0.000	-0.845	-0.002
10.0	324.291	42.626	1.4395	0.935	0.000	-0.499	0.000	-0.846	0.000
10.5	346.183	44.972	1.5557	0.935	0.000	-0.499	-0.000	-0.845	0.002
11.0	369.295	47.511	1.6780	0.935	0.000	-0.499	-0.000	-0.844	0.005
11.5	393.738	50.309	1.8067	0.936	0.001	-0.499	-0.001	-0.840	0.009
12.0	419.664	53.460	1.9420	0.936	0.002	-0.499	-0.002	-0.834	0.014
12.5	447.266	57.019	2.0843	0.938	0.003	-0.501	-0.003	-0.826	0.019
13.0	476.755	61.013	2.2339	0.940	0.005	-0.503	-0.005	-0.815	0.024
13.5	508.355	65.463	2.3911	0.943	0.007	-0.506	-0.007	-0.802	0.030
14.0	542.299	70.397	2.5564	0.946	0.008	-0.509	-0.008	-0.785	0.035
14.5	578.837	75.845	2.7298	0.951	0.010	-0.514	-0.010	-0.766	0.041
15.0	618.235	81.843	2.9119	0.956	0.012	-0.520	-0.012	-0.745	0.046
15.5	660.778	88.428	3.1028	0.962	0.013	-0.526	-0.014	-0.721	0.050

METHANE ISOTHERM 400.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	16.507	32.789	0.0428	1.314	-0.199	-0.931	0.395	-0.506	-0.052
1.0	32.798	32.390	0.0880	1.240	-0.114	-0.798	0.186	-0.534	-0.059
1.5	48.915	32.098	0.1357	1.192	-0.080	-0.725	0.116	-0.565	-0.062
2.0	64.915	31.923	0.1859	1.157	-0.061	-0.676	0.081	-0.596	-0.062
2.5	80.855	31.850	0.2387	1.130	-0.048	-0.641	0.060	-0.626	-0.061
3.0	96.780	31.867	0.2942	1.108	-0.039	-0.615	0.046	-0.656	-0.059
3.5	112.737	31.975	0.3524	1.091	-0.032	-0.594	0.037	-0.685	-0.057
4.0	128.772	32.183	0.4134	1.076	-0.026	-0.578	0.029	-0.713	-0.053
4.5	144.939	32.504	0.4774	1.064	-0.021	-0.565	0.023	-0.739	-0.050
5.0	161.298	32.954	0.5444	1.055	-0.017	-0.554	0.019	-0.762	-0.045
5.5	177.916	33.545	0.6148	1.047	-0.014	-0.546	0.015	-0.784	-0.040
6.0	194.868	34.285	0.6885	1.041	-0.011	-0.539	0.012	-0.803	-0.035
6.5	212.228	35.181	0.7659	1.036	-0.009	-0.534	0.009	-0.819	-0.030
7.0	230.075	36.237	0.8470	1.031	-0.007	-0.530	0.007	-0.832	-0.024
7.5	248.493	37.466	0.9322	1.028	-0.005	-0.527	0.005	-0.843	-0.019
8.0	267.575	38.895	1.0217	1.027	-0.003	-0.525	0.003	-0.851	-0.014
8.5	287.430	40.572	1.1157	1.026	-0.001	-0.524	0.001	-0.857	-0.009
9.0	308.195	42.533	1.2146	1.025	-0.000	-0.524	0.000	-0.861	-0.005
9.5	330.004	44.738	1.3184	1.025	-0.000	-0.524	0.000	-0.862	-0.002
10.0	352.964	47.132	1.4277	1.025	0.000	-0.524	0.000	-0.862	0.000
10.5	377.167	49.712	1.5425	1.025	0.000	-0.524	-0.000	-0.862	0.002
11.0	402.710	52.496	1.6633	1.025	0.000	-0.524	-0.000	-0.861	0.005
11.5	429.708	55.550	1.7902	1.025	0.001	-0.524	-0.001	-0.857	0.009
12.0	458.321	58.970	1.9236	1.026	0.002	-0.524	-0.002	-0.851	0.014
12.5	488.748	62.811	2.0638	1.027	0.003	-0.526	-0.003	-0.843	0.019
13.0	521.207	67.098	2.2110	1.029	0.005	-0.528	-0.005	-0.832	0.025
13.5	555.925	71.855	2.3656	1.032	0.007	-0.531	-0.007	-0.818	0.031
14.0	593.144	77.107	2.5279	1.036	0.008	-0.535	-0.008	-0.801	0.036
14.5	633.120	82.886	2.6982	1.041	0.010	-0.539	-0.010	-0.782	0.042
15.0	676.124	89.226	2.8767	1.046	0.012	-0.545	-0.012	-0.760	0.047

METHANE ISOTHERM 420.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	17.362	34.547	0.0427	1.402	-0.199	-0.954	0.395	-0.510	-0.055
1.0	34.556	34.244	0.0878	1.327	-0.114	-0.820	0.186	-0.540	-0.062
1.5	51.625	34.051	0.1353	1.280	-0.080	-0.747	0.116	-0.572	-0.064
2.0	68.627	33.977	0.1853	1.245	-0.061	-0.699	0.081	-0.604	-0.064
2.5	85.619	34.008	0.2378	1.218	-0.048	-0.664	0.060	-0.635	-0.063
3.0	102.650	34.131	0.2928	1.196	-0.039	-0.637	0.046	-0.666	-0.061
3.5	119.766	34.349	0.3506	1.178	-0.032	-0.617	0.037	-0.696	-0.058
4.0	137.017	34.672	0.4111	1.164	-0.026	-0.600	0.029	-0.724	-0.055
4.5	154.458	35.114	0.4746	1.152	-0.021	-0.587	0.023	-0.750	-0.051
5.0	172.153	35.690	0.5411	1.143	-0.017	-0.577	0.019	-0.775	-0.046
5.5	190.172	36.413	0.6108	1.135	-0.014	-0.569	0.015	-0.797	-0.041
6.0	208.592	37.292	0.6839	1.128	-0.011	-0.562	0.012	-0.816	-0.036
6.5	227.492	38.335	0.7605	1.123	-0.009	-0.557	0.009	-0.832	-0.030
7.0	246.955	39.547	0.8409	1.119	-0.007	-0.553	0.007	-0.846	-0.025
7.5	267.069	40.942	0.9253	1.116	-0.005	-0.550	0.005	-0.857	-0.019
8.0	287.931	42.545	1.0139	1.114	-0.003	-0.548	0.003	-0.865	-0.014
8.5	309.657	44.406	1.1069	1.113	-0.001	-0.547	0.001	-0.871	-0.009
9.0	332.387	46.563	1.2047	1.113	-0.000	-0.546	0.000	-0.875	-0.005
9.5	356.263	48.973	1.3073	1.113	-0.000	-0.546	0.000	-0.876	-0.002
10.0	381.394	51.584	1.4152	1.113	0.000	-0.546	0.000	-0.877	0.000
10.5	407.879	54.391	1.5286	1.113	0.000	-0.546	-0.000	-0.876	0.002
11.0	435.821	57.413	1.6477	1.113	0.000	-0.546	-0.000	-0.875	0.005
11.5	465.339	60.717	1.7728	1.113	0.001	-0.546	-0.001	-0.871	0.009
12.0	496.601	64.398	1.9042	1.114	0.002	-0.547	-0.002	-0.865	0.014
12.5	529.809	68.511	2.0422	1.115	0.003	-0.548	-0.003	-0.857	0.020
13.0	565.188	73.083	2.1870	1.117	0.005	-0.551	-0.005	-0.846	0.025
13.5	602.972	78.135	2.3389	1.120	0.007	-0.553	-0.007	-0.832	0.031
14.0	643.408	83.695	2.4983	1.124	0.008	-0.557	-0.008	-0.815	0.037
14.5	686.757	89.792	2.6653	1.128	0.010	-0.562	-0.010	-0.795	0.042

METHANE ISOTHERM 450.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	18.643	37.178	0.0427	1.529	-0.199	-0.984	0.395	-0.516	-0.059
1.0	37.188	37.015	0.0876	1.455	-0.114	-0.851	0.186	-0.547	-0.065
1.5	55.677	36.964	0.1348	1.407	-0.080	-0.777	0.116	-0.580	-0.066
2.0	74.172	37.036	0.1844	1.372	-0.061	-0.729	0.081	-0.614	-0.066
2.5	92.731	37.217	0.2364	1.345	-0.048	-0.694	0.060	-0.646	-0.065
3.0	111.406	37.497	0.2909	1.323	-0.039	-0.668	0.046	-0.678	-0.063
3.5	130.245	37.877	0.3480	1.306	-0.032	-0.647	0.037	-0.709	-0.060
4.0	149.302	38.368	0.4079	1.292	-0.026	-0.631	0.029	-0.738	-0.056
4.5	168.635	38.986	0.4705	1.280	-0.021	-0.618	0.023	-0.765	-0.052
5.0	188.312	39.748	0.5362	1.270	-0.017	-0.607	0.019	-0.790	-0.047
5.5	208.408	40.666	0.6050	1.262	-0.014	-0.599	0.015	-0.812	-0.042
6.0	229.005	41.750	0.6770	1.256	-0.011	-0.592	0.012	-0.832	-0.037
6.5	250.188	43.010	0.7525	1.251	-0.009	-0.587	0.009	-0.849	-0.031
7.0	272.045	44.451	0.8317	1.247	-0.007	-0.583	0.007	-0.863	-0.025
7.5	294.671	46.087	0.9148	1.244	-0.005	-0.580	0.005	-0.874	-0.020
8.0	318.170	47.946	1.0019	1.242	-0.003	-0.578	0.003	-0.883	-0.014
8.5	342.663	50.077	1.0934	1.241	-0.001	-0.577	0.001	-0.889	-0.009
9.0	368.299	52.518	1.1893	1.241	-0.000	-0.577	0.000	-0.892	-0.005
9.5	395.226	55.228	1.2901	1.241	-0.000	-0.577	0.000	-0.894	-0.002
10.0	423.562	58.153	1.3959	1.241	0.000	-0.577	0.000	-0.894	0.000
10.5	453.414	61.289	1.5069	1.241	0.000	-0.577	-0.000	-0.894	0.002
11.0	484.890	64.657	1.6234	1.241	0.000	-0.577	-0.000	-0.892	0.005
11.5	518.120	68.321	1.7457	1.241	0.001	-0.577	-0.001	-0.889	0.009
12.0	553.277	72.379	1.8740	1.241	0.002	-0.577	-0.002	-0.883	0.014
12.5	590.573	76.885	2.0085	1.243	0.003	-0.579	-0.003	-0.874	0.020
13.0	630.241	81.865	2.1496	1.245	0.005	-0.581	-0.005	-0.863	0.026
13.5	672.522	87.343	2.2975	1.248	0.007	-0.584	-0.007	-0.848	0.032

METHANE ISOTHERM 500.0 DEG. K

MOL/L	P,BAR	DP/DD	DP/DT	XB	DXB/DD	XC	DXC/DD	XD	DXD/DD
0.5	20.775	41.548	0.0426	1.731	-0.199	-1.026	0.395	-0.523	-0.065
1.0	41.559	41.603	0.0872	1.657	-0.114	-0.893	0.186	-0.557	-0.069
1.5	62.398	41.777	0.1340	1.609	-0.080	-0.820	0.116	-0.591	-0.070
2.0	83.357	42.081	0.1830	1.574	-0.061	-0.771	0.081	-0.626	-0.069
2.5	104.498	42.501	0.2343	1.547	-0.048	-0.736	0.060	-0.660	-0.068
3.0	125.876	43.029	0.2879	1.526	-0.039	-0.710	0.046	-0.694	-0.065
3.5	147.545	43.668	0.3440	1.508	-0.032	-0.689	0.037	-0.725	-0.062
4.0	169.564	44.430	0.4027	1.494	-0.026	-0.673	0.029	-0.756	-0.058
4.5	191.998	45.331	0.4641	1.482	-0.021	-0.660	0.023	-0.784	-0.054
5.0	214.922	46.390	0.5283	1.472	-0.017	-0.650	0.019	-0.809	-0.049
5.5	238.417	47.621	0.5955	1.464	-0.014	-0.641	0.015	-0.832	-0.043
6.0	262.573	49.035	0.6658	1.458	-0.011	-0.635	0.012	-0.853	-0.038
6.5	287.485	50.642	0.7394	1.453	-0.009	-0.629	0.009	-0.870	-0.032
7.0	313.249	52.450	0.8164	1.449	-0.007	-0.625	0.007	-0.884	-0.026
7.5	339.970	54.472	0.8972	1.446	-0.005	-0.622	0.005	-0.896	-0.020
8.0	367.762	56.738	0.9818	1.444	-0.003	-0.620	0.003	-0.904	-0.014
8.5	396.757	59.298	1.0704	1.443	-0.001	-0.619	0.001	-0.910	-0.009
9.0	427.116	62.190	1.1633	1.443	-0.000	-0.619	0.000	-0.914	-0.005
9.5	458.996	65.374	1.2607	1.443	-0.000	-0.619	0.000	-0.916	-0.002
10.0	492.529	68.796	1.3628	1.443	0.000	-0.619	0.000	-0.916	0.000
10.5	527.831	72.452	1.4697	1.443	0.000	-0.619	-0.000	-0.916	0.002
11.0	565.023	76.362	1.5818	1.443	0.000	-0.619	-0.000	-0.914	0.005
11.5	604.247	80.593	1.6993	1.443	0.001	-0.619	-0.001	-0.910	0.009
12.0	645.687	85.241	1.8223	1.443	0.002	-0.620	-0.002	-0.904	0.015
12.5	689.567	90.362	1.9511	1.445	0.003	-0.621	-0.003	-0.896	0.020

Table 12. The Joule-Thomson inversion locus

T, K	P, BAR	MOL/L	T, K	P, BAR	MOL/L
160	44.51	21.95	330	499.31	15.44
165	69.92	21.33	335	504.06	15.28
170	94.12	21.12	340	508.44	15.12
175	117.19	20.31	345	512.45	14.96
180	139.22	20.71	350	516.08	14.80
185	160.26	20.50	355	519.37	14.64
190	180.40	20.30	360	522.30	14.48
195	199.69	20.10	365	524.87	14.32
200	218.17	19.31	370	527.11	14.16
205	235.90	19.71	375	529.01	13.99
210	252.91	19.52	380	530.57	13.83
215	269.23	19.33	385	531.81	13.67
220	284.91	19.15	390	532.72	13.51
225	299.96	18.37	395	533.30	13.34
230	314.41	18.79	400	533.56	13.18
235	328.28	19.31	405	533.50	13.02
240	341.59	18.43	410	533.11	12.86
245	354.36	13.25	415	532.40	12.69
250	366.60	18.08	420	531.36	12.52
255	378.33	17.31	425	529.99	12.36
260	389.56	17.74	430	528.28	12.19
265	400.29	17.57	435	526.22	12.02
270	410.55	17.40	440	523.81	11.86
275	420.34	17.23	445	521.04	11.67
280	429.67	17.07	450	517.93	11.50
285	438.54	16.30	455	514.51	11.32
290	446.98	16.74	460	510.81	11.14
295	454.97	16.57	465	506.93	10.97
300	462.53	16.41	470	502.96	10.79
305	469.68	16.25	475	498.95	10.62
310	476.41	16.09	480	494.94	10.45
315	482.73	15.32	485	490.96	10.28
320	488.65	15.76	490	487.01	10.12
325	494.18	15.50	495	483.10	9.96

Table 13. Thermophysical properties of the saturated liquid

For the following table we have used the Clapeyron equation to make the vapor-liquid transition at temperatures $T \leq T_a \equiv 174.516 \text{ K}$. For higher temperatures we have computed around the critical point as described in section 3.4 of the text, with aid from figure 1.

Column headings have the following interpretations--

$$\begin{aligned} DP/DT &\equiv dP/dT, \text{ vapor pressure,} \\ DDL/DT &\equiv d\rho_\ell/dT, \text{ saturated liquid,} \\ Q, \text{ VAP} &\equiv \Delta H_{\text{vap}}, \text{ heat of vaporization,} \\ CV &\equiv C_v(\rho, T), \\ CS &\equiv C_\sigma(T), \\ CP &\equiv C_p(\rho, T). \end{aligned}$$

Table 13. Thermophysical properties of the saturated liquid

T	P	DEN	V,GAS	V,LIQ	OP/DT	DOL/DT	Q,VAP	E	H	S	CV	CS	CP
DEG K	BAR	MOL/L	L/MOL	L/MOL	BAR/K	MOL/L/K	J/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	J/MOL/K
90.680	0.117	28.147	63.7807	0.03553	0.0151	-0.0828	8720.1	3471.9	3472.3	67.978	33.10	52.74	52.75
92.000	0.139	28.038	54.7032	0.03567	0.0173	-0.0831	8692.1	3537.8	3538.3	68.641	33.02	52.83	52.85
94.000	0.177	27.871	43.7449	0.03588	0.0211	-0.0836	8648.9	3638.9	3639.5	69.779	32.96	53.05	53.07
96.000	0.223	27.703	35.3419	0.03610	0.0254	-0.0841	8604.5	3741.2	3742.0	70.839	32.96	53.33	53.36
98.000	0.279	27.534	28.9252	0.03632	0.0303	-0.0847	8558.9	3844.9	3845.9	72.002	32.99	53.66	53.69
100.000	0.345	27.364	23.7210	0.03654	0.0359	-0.0854	8511.7	3949.8	3951.1	73.030	33.04	54.01	54.05
102.000	0.423	27.193	19.5818	0.03677	0.0422	-0.0861	8463.0	4055.9	4057.4	74.103	33.08	54.30	54.41
104.000	0.515	27.020	15.4565	0.03701	0.0493	-0.0869	8412.6	4163.1	4165.0	75.222	33.11	54.72	54.78
106.000	0.621	26.845	13.3531	0.03725	0.0571	-0.0878	8360.4	4271.3	4273.6	76.237	33.12	55.00	55.13
108.000	0.743	26.669	11.7532	0.03750	0.0657	-0.0887	8306.5	4380.4	4383.2	77.239	33.10	55.33	55.47
110.000	0.884	26.490	10.0250	0.03775	0.0751	-0.0896	8250.7	4490.4	4493.8	78.318	33.06	55.69	55.80
112.000	1.044	26.310	8.6036	0.03801	0.0854	-0.0906	8193.0	4601.2	4605.2	79.324	32.98	55.98	56.11
114.000	1.226	26.128	7.4244	0.03827	0.0966	-0.0917	8133.5	4712.7	4717.4	80.318	32.89	56.20	56.40
116.000	1.431	25.943	6.4439	0.03855	0.1087	-0.0928	8071.9	4824.9	4830.4	81.298	32.70	56.52	56.69
118.000	1.662	25.756	5.6131	0.03883	0.1218	-0.0940	8008.4	4937.7	4944.2	82.257	32.63	56.78	56.98
120.000	1.919	25.567	4.9146	0.03911	0.1358	-0.0953	7942.7	5051.1	5058.6	83.223	32.49	57.04	57.28
122.000	2.205	25.375	4.3213	0.03941	0.1507	-0.0966	7874.8	5165.1	5173.6	84.198	32.32	57.31	57.58
124.000	2.523	25.180	3.8148	0.03971	0.1667	-0.0980	7804.7	5279.7	5289.7	85.102	32.17	57.58	57.90
126.000	2.873	24.983	3.3332	0.04003	0.1837	-0.0995	7732.1	5394.9	5400.4	86.026	32.02	57.87	58.24
128.000	3.258	24.783	2.9056	0.04035	0.2017	-0.1010	7657.0	5510.8	5523.9	86.940	31.89	58.19	58.62
130.000	3.681	24.579	2.6812	0.04069	0.2208	-0.1026	7579.2	5627.3	5642.2	87.844	31.75	58.53	59.03
132.000	4.142	24.372	2.3931	0.04103	0.2409	-0.1043	7498.5	5744.5	5761.5	88.741	31.64	58.91	59.48
134.000	4.645	24.162	2.1528	0.04139	0.2621	-0.1061	7414.8	5862.6	5881.8	89.630	31.55	59.32	59.97
136.000	5.191	23.947	1.9359	0.04176	0.2843	-0.1080	7327.8	5981.4	6003.1	90.512	31.47	59.77	60.52
138.000	5.763	23.723	1.7409	0.04214	0.3076	-0.1100	7237.4	6101.2	6125.6	91.388	31.42	60.25	61.11
140.000	6.422	23.507	1.5731	0.04254	0.3321	-0.1121	7143.4	6222.0	6249.3	92.259	31.38	60.78	61.75
142.000	7.112	23.281	1.4335	0.04295	0.3576	-0.1144	7045.5	6343.6	6374.4	93.129	31.35	61.34	62.45
144.000	7.853	23.050	1.2934	0.04338	0.3842	-0.1168	6943.6	6466.8	6500.9	93.997	31.33	61.94	63.20
146.000	8.645	22.813	1.1805	0.04383	0.4120	-0.1194	6837.3	6590.9	6628.8	94.845	31.31	62.57	64.01
148.000	9.502	22.572	1.0751	0.04430	0.4409	-0.1222	6726.5	6716.3	6758.4	95.701	31.29	63.23	64.88
150.000	10.414	22.324	0.9816	0.04479	0.4710	-0.1252	6610.8	6843.0	6889.6	96.554	31.20	63.93	65.80
152.000	11.387	22.071	0.8935	0.04531	0.5022	-0.1285	6490.1	6971.0	7022.6	97.406	31.22	64.66	66.80
154.000	12.423	21.810	0.8138	0.04585	0.5346	-0.1321	6365.9	7100.5	7157.4	98.256	31.15	65.42	67.37
156.000	13.526	21.542	0.7434	0.04642	0.5683	-0.1360	6232.1	7231.4	7294.2	99.105	31.05	66.23	69.03
158.000	14.697	21.266	0.6835	0.04702	0.6031	-0.1403	6094.2	7363.8	7433.0	99.954	31.03	67.08	70.30
160.000	15.939	20.981	0.6234	0.04766	0.6393	-0.1451	5949.8	7497.9	7573.9	100.804	30.78	68.00	71.71
162.000	17.235	20.680	0.5773	0.04834	0.6767	-0.1505	5793.5	7633.8	7717.2	101.655	30.60	69.01	73.29
164.000	18.647	20.378	0.5237	0.04907	0.7155	-0.1565	5639.5	7771.6	7863.1	102.508	30.40	70.12	75.16
166.000	20.118	20.059	0.4801	0.04985	0.7557	-0.1634	5472.1	7911.6	8011.9	103.360	30.19	71.39	77.20
168.000	21.671	19.724	0.4450	0.05070	0.7973	-0.1713	5295.4	8054.0	8163.9	104.229	29.99	72.80	79.70
170.000	23.308	19.373	0.4032	0.05162	0.8404	-0.1805	5108.1	8199.3	8319.7	105.101	29.81	74.61	82.72
172.000	25.034	19.001	0.3750	0.05263	0.8851	-0.1913	4908.6	8348.2	8479.9	105.936	29.69	76.73	86.47
174.000	26.850	18.606	0.3434	0.05375	0.9316	-0.2041	4694.8	8501.2	8645.5	106.838	29.67	79.36	91.19
176.000	28.761	18.183	0.3139	0.05500	0.9798	-0.2198	4463.9	8660.4	8818.6	107.814	30.19	83.09	97.72
178.000	30.771	17.725	0.2851	0.05642	1.0301	-0.2393	4212.0	8826.3	8999.9	108.776	30.36	87.23	105.74
180.000	32.883	17.222	0.2599	0.05806	1.0826	-0.2643	3933.5	9000.7	9191.6	109.779	30.64	92.59	116.71
182.000	35.103	16.662	0.2349	0.06002	1.1377	-0.2977	3620.4	9186.0	9396.7	110.839	31.06	99.81	132.50
184.000	37.435	16.022	0.2106	0.06241	1.1958	-0.3453	3259.9	9386.6	9620.3	111.933	31.72	110.19	157.71
186.000	39.888	15.263	0.1835	0.06552	1.2579	-0.4205	2830.1	9610.2	9871.5	113.256	32.77	126.05	203.50
188.000	42.471	14.294	0.1616	0.06996	1.3257	-0.5690	2284.7	9874.3	10171.4	114.766	34.75	160.47	315.41
190.000	45.199	12.721	0.1321	0.07861	1.4064	-1.2723	1430.1	10258.3	10613.6	116.938	41.07	325.27	1130.90
190.555	45.988	10.000	0.1000	0.10000	1.4451		0.0	10841.2	11301.1	120.574			

Table 14. Thermophysical properties along isobars *

The following pages give physical and thermodynamic properties along selected isobars, as computed by methods of section 3 of the text.

The first table is for the triple-point pressure, $P_t = 0.117\,436$ bar (1.70326 psi).

The first line of each table refers to freezing liquid on the $P(T)$ melting line.

Each table at $P < P_c$ contains a blank line for the transition from saturated liquid to vapor, as seen by the abrupt decrease of density.

Table headings for partial derivatives have the following interpretations--

$$DP/DT \equiv \partial P / \partial T,$$

$$DP/DD \equiv \partial P / \partial \rho.$$

The specific heat interpretations are--

$$CV \equiv C_V(\rho, T),$$

$$CP \equiv C_P(\rho, T).$$

* These tables are extrapolated beyond the range of P - ρ - T data used for adjusting the equation of state ($T \sim 400$ K, $P \sim 350$ bar).

METHANE ISOBAR AT P = 0.117 436 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
90.680	28.147	0.03553	20.7249	250.154	3471.9	3472.3	67.878	33.10	52.75	1575
90.680	0.01568	63.781	0.001310	7.434	11429.1	12178.1	16.4042	25.05	33.57	249
95.000	0.01495	66.876	0.001249	7.801	11538.5	12323.8	16.5003	25.03	33.53	255
100.000	0.01419	70.452	0.001185	8.224	11644.9	12492.2	16.7322	25.02	33.49	262
105.000	0.01351	74.025	0.001127	8.647	11791.1	12660.5	16.9555	25.01	33.43	269
110.000	0.01289	77.593	0.001074	9.066	11917.3	12828.5	17.0510	25.00	33.43	275
115.000	0.01232	81.159	0.001027	9.489	12043.4	12996.5	17.1996	25.00	33.42	281
120.000	0.01180	84.722	0.000983	9.909	12169.4	13164.4	17.3418	24.99	33.41	287
125.000	0.01133	88.283	0.000944	10.329	12295.4	13332.2	17.4781	24.99	33.39	293
130.000	0.01089	91.843	0.000907	10.748	12421.4	13499.9	17.6091	24.99	33.34	299
135.000	0.01046	95.401	0.000873	11.167	12547.3	13667.6	17.7350	24.99	33.37	305
140.000	0.01011	98.957	0.000841	11.585	12673.1	13835.2	17.8564	24.99	33.37	311
145.000	0.00975	102.513	0.000812	12.004	12799.0	14002.9	17.9735	24.99	33.37	316
150.000	0.00943	106.068	0.000785	12.422	12924.8	14170.5	18.0866	25.00	33.37	321
155.000	0.00912	109.621	0.000759	12.839	13050.7	14338.1	18.1960	25.01	33.37	327
160.000	0.00884	113.174	0.000735	13.257	13176.6	14505.7	18.3020	25.02	33.39	332
165.000	0.00857	116.727	0.000713	13.675	13302.5	14673.3	18.4047	25.03	33.39	337
170.000	0.00831	120.279	0.000692	14.092	13428.5	14841.0	18.5044	25.04	33.40	342
175.000	0.00806	123.830	0.000672	14.509	13554.5	15008.7	18.6012	25.06	33.41	347
180.000	0.00785	127.381	0.000653	14.927	13680.6	15176.5	18.6954	25.08	33.43	352
185.000	0.00764	130.931	0.000636	15.344	13806.8	15344.4	18.7870	25.11	33.45	357
190.000	0.00744	134.481	0.000619	15.761	13933.2	15512.5	18.8762	25.13	33.45	362
195.000	0.00724	138.031	0.000603	16.178	14059.7	15680.6	18.9633	25.17	33.51	368
200.000	0.00706	141.580	0.000588	16.594	14186.3	15849.0	19.0481	25.21	33.55	371
205.000	0.00689	145.129	0.000573	17.011	14313.2	16017.5	19.1310	25.25	33.59	375
210.000	0.00673	148.678	0.000558	17.428	14440.2	16186.3	19.2121	25.30	33.64	381
215.000	0.00657	152.227	0.000547	17.845	14567.6	16355.3	19.2913	25.36	33.71	384
220.000	0.00642	155.775	0.000534	18.261	14695.2	16524.6	19.3688	25.42	33.76	388
225.000	0.00628	159.323	0.000522	18.676	14823.2	16694.2	19.4448	25.49	33.83	393
230.000	0.00614	162.871	0.000511	19.094	14951.5	16864.2	19.5192	25.57	33.91	397
235.000	0.00601	166.419	0.000500	19.511	15080.2	17034.6	19.5922	25.66	33.99	401
240.000	0.00586	169.967	0.000489	19.927	15209.3	17205.4	19.6639	25.75	34.03	405
245.000	0.00576	173.514	0.000479	20.344	15339.0	17376.6	19.7343	25.85	34.13	409
250.000	0.00565	177.061	0.000470	20.760	15469.1	17548.4	19.8034	25.96	34.23	413
255.000	0.00554	180.609	0.000461	21.177	15599.8	17720.8	19.8714	26.07	34.34	417
260.000	0.00543	184.155	0.000452	21.593	15731.0	17893.7	19.9384	26.20	34.45	421
265.000	0.00533	187.702	0.000443	22.009	15862.9	18067.2	20.0042	26.33	34.56	425
270.000	0.00523	191.243	0.000435	22.426	15995.5	18241.4	20.0692	26.47	34.73	429
275.000	0.00513	194.796	0.000427	22.842	16128.6	18416.4	20.1331	26.61	34.94	432
280.000	0.00504	198.342	0.000419	23.258	16262.8	18592.0	20.1962	26.77	35.13	436
285.000	0.00495	201.886	0.000412	23.674	16397.6	18768.5	20.2585	26.93	35.26	440
290.000	0.00487	205.435	0.000405	24.091	16533.2	18945.8	20.3200	27.10	35.43	443
295.000	0.00479	208.981	0.000398	24.507	16669.7	19123.9	20.3807	27.28	35.63	447
300.000	0.00471	212.527	0.000391	24.923	16807.1	19302.9	20.4406	27.46	35.79	450
310.000	0.00455	219.619	0.000379	25.756	17084.7	19663.8	20.5586	27.85	36.13	457
320.000	0.00441	226.711	0.000367	26.588	17366.4	20024.7	20.7411	28.27	36.59	463
330.000	0.00428	233.802	0.000356	27.420	17652.2	20387.9	20.8747	28.71	37.03	470
340.000	0.00415	240.894	0.000345	28.252	17942.6	20771.6	20.9886	29.17	37.49	476
350.000	0.00403	247.985	0.000335	29.085	18237.7	21149.9	21.0880	29.65	37.97	482
360.000	0.00392	255.075	0.000326	29.917	18537.7	21533.2	21.157	30.15	38.43	488
370.000	0.00381	262.166	0.000317	30.749	18842.8	21921.5	21.218	30.67	38.95	494
380.000	0.00371	269.256	0.000309	31.581	19153.1	22315.1	21.265	31.20	39.52	499
390.000	0.00362	276.346	0.000301	32.413	19468.8	22714.1	21.298	31.75	40.07	505
400.000	0.00353	283.436	0.000293	33.245	19789.9	23118.5	21.320	32.30	40.62	511
420.000	0.00336	297.616	0.000279	34.909	20449.0	23944.1	21.7329	33.43	41.75	521
440.000	0.00321	311.795	0.000267	36.574	21130.9	24792.5	21.9298	34.58	42.90	532
460.000	0.00307	325.973	0.000255	38.238	21835.9	25664.0	22.1230	35.74	44.06	542
480.000	0.00294	340.151	0.000244	39.901	22564.1	26558.6	22.3130	36.90	45.22	552
500.000	0.00282	354.328	0.000235	41.565	23315.3	27476.4	22.4999	38.05	46.37	562

METHANE ISOBAR AT P = 0.5 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
90.690	28.148	0.03553	20.7236	250.205	3472.0	3473.7	67.880	33.10	52.75	1576
95.000	27.789	0.03599	19.6133	233.734	3689.6	3691.4	70.338	32.96	53.20	1534
100.000	27.365	0.03654	18.3859	214.904	3949.6	3951.4	73.088	33.04	54.05	1480
103.701	27.046	0.03637	17.5167	201.267	4147.0	4148.8	75.064	33.11	54.72	1440
103.701	0.05919	16.895	0.005001	8.269	11719.2	12553.9	156.261	25.23	34.13	264
105.000	0.05842	17.119	0.004932	8.386	11752.4	12608.4	155.686	25.22	34.14	260
110.000	0.05562	17.978	0.004686	8.831	11880.1	12779.0	158.271	25.17	34.01	273
115.000	0.05309	18.834	0.004465	9.271	12007.3	12949.0	159.781	25.13	33.90	274
120.000	0.05080	19.687	0.004266	9.709	12134.2	13118.6	161.222	25.10	33.82	290
125.000	0.04869	20.537	0.004085	10.144	12260.9	13237.9	162.601	25.08	33.76	292
130.000	0.04676	21.385	0.003919	10.577	12387.4	13356.7	163.924	25.07	33.70	293
135.000	0.04498	22.232	0.003767	11.008	12513.7	13475.3	165.195	25.06	33.66	304
140.000	0.04333	23.077	0.003627	11.437	12639.9	13593.9	166.418	25.05	33.63	309
145.000	0.04181	23.920	0.003497	11.865	12766.1	13712.1	167.598	25.05	33.60	319
150.000	0.04038	24.753	0.003376	12.292	12892.1	13830.3	168.736	25.05	33.58	320
155.000	0.03906	25.615	0.003264	12.718	13018.1	13948.4	169.837	25.05	33.56	326
160.000	0.03781	26.446	0.003159	13.144	13144.1	14066.4	170.902	25.05	33.55	331
165.000	0.03665	27.286	0.003061	13.568	13270.1	14184.4	171.935	25.06	33.54	336
170.000	0.03556	28.125	0.002968	13.992	13396.1	14302.3	172.936	25.07	33.54	342
175.000	0.03453	28.964	0.002882	14.415	13522.1	14420.3	173.908	25.09	33.54	347
180.000	0.03355	29.802	0.002800	14.837	13648.2	14538.3	174.853	25.10	33.55	352
185.000	0.03264	30.640	0.002723	15.259	13774.3	14656.3	175.773	25.13	33.57	356
190.000	0.03177	31.477	0.002650	15.681	13900.6	14774.4	176.668	25.16	33.59	361
195.000	0.03095	32.314	0.002581	16.102	14027.0	14892.7	177.541	25.19	33.61	366
200.000	0.03016	33.151	0.002515	16.523	14153.5	15011.1	178.392	25.23	33.64	371
205.000	0.02942	33.987	0.002453	16.944	14280.2	15129.6	179.223	25.27	33.68	375
210.000	0.02872	34.823	0.002394	17.364	14407.2	15248.4	180.035	25.32	33.72	380
215.000	0.02804	35.659	0.002336	17.784	14534.4	15367.4	180.830	25.37	33.77	384
220.000	0.02740	36.495	0.002284	18.204	14661.9	15486.6	181.607	25.44	33.83	388
225.000	0.02679	37.330	0.002232	18.623	14789.7	15606.2	182.368	25.51	33.90	393
230.000	0.02620	38.165	0.002183	19.043	14917.8	15726.1	183.114	25.56	33.97	397
235.000	0.02564	39.000	0.002136	19.462	15046.4	15846.4	183.845	25.67	34.05	401
240.000	0.02510	39.835	0.002092	19.881	15175.3	15967.1	184.563	25.76	34.14	405
245.000	0.02459	40.670	0.002048	20.299	15304.8	16088.3	185.268	25.86	34.24	409
250.000	0.02409	41.504	0.002007	20.718	15434.7	16209.9	185.960	25.97	34.34	413
255.000	0.02362	42.339	0.001967	21.137	15565.2	16332.2	186.641	26.06	34.45	417
260.000	0.02316	43.173	0.001929	21.555	15696.3	16455.0	187.312	26.20	34.57	421
265.000	0.02272	44.007	0.001893	21.973	15828.0	16578.4	187.971	26.33	34.70	425
270.000	0.02230	44.841	0.001857	22.391	15960.4	16702.4	188.621	26.47	34.84	429
275.000	0.02189	45.675	0.001823	22.809	16093.5	16827.2	189.262	26.62	34.99	433
280.000	0.02150	46.509	0.001791	23.227	16227.3	16952.7	189.893	26.77	35.13	437
285.000	0.02112	47.342	0.001759	23.645	16361.9	17079.0	190.517	26.94	35.28	441
290.000	0.02076	48.176	0.001728	24.062	16497.4	17206.1	191.132	27.11	35.40	445
295.000	0.02040	49.009	0.001699	24.480	16633.6	17334.1	191.740	27.28	35.64	449
300.000	0.02006	49.843	0.001670	24.898	16770.8	17463.0	192.340	27.47	35.82	453
310.000	0.01941	51.509	0.001616	25.732	17048.1	17823.5	193.521	27.86	36.21	457
320.000	0.01881	53.176	0.001566	26.567	17329.3	18188.1	194.677	28.27	36.62	463
330.000	0.01823	54.842	0.001518	27.401	17614.8	18556.9	195.810	28.71	37.05	470
340.000	0.01770	56.518	0.001473	28.235	17904.8	18930.2	196.923	29.17	37.52	477
350.000	0.01719	58.174	0.001431	29.069	18199.5	19308.2	198.018	29.66	38.00	482
360.000	0.01671	59.839	0.001391	29.903	18499.1	19691.0	199.095	30.16	38.50	489
370.000	0.01626	61.505	0.001353	30.736	18803.8	20079.0	200.157	30.67	39.01	494
380.000	0.01583	63.170	0.001317	31.570	19113.7	20472.2	201.204	31.21	39.54	499
390.000	0.01542	64.835	0.001284	32.403	19429.0	20870.8	202.238	31.75	40.09	505
400.000	0.01504	66.500	0.001251	33.236	19749.8	21274.8	203.260	32.30	40.64	511
420.000	0.01432	69.830	0.001192	34.902	20408.1	22839.6	205.270	33.44	41.77	521
440.000	0.01367	73.160	0.001137	36.568	21089.3	24747.3	207.240	34.59	42.92	532
460.000	0.01307	76.489	0.001088	38.233	21793.6	25618.0	209.173	35.75	44.08	542
480.000	0.01253	79.817	0.001042	39.898	22521.0	26511.9	211.073	36.91	45.23	552
500.000	0.01203	83.146	0.001001	41.563	23271.6	27428.9	212.943	38.06	46.33	562

METHANE ISOBAR AT P = 1.0 BAR

T	UEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	α
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
90.703	28.149	0.03553	20.7220	250.272	3472.1	3475.7	67.882	33.11	52.75	1577
95.000	27.791	0.03598	19.6154	233.856	3689.0	3642.6	70.333	32.96	53.20	1534
100.000	27.367	0.03654	18.3885	215.036	3949.0	3952.7	73.082	33.04	54.04	1481
105.000	26.935	0.03713	17.2222	196.694	4216.5	4220.2	75.741	33.12	54.95	1426
110.000	26.491	0.03775	16.1109	178.956	4490.3	4494.0	78.317	33.06	55.73	1372
111.472	26.358	0.03794	15.7932	173.861	4571.9	4575.7	79.060	33.01	56.03	1356
111.472	0.11170	8.953	0.009546	8.631	11886.4	12781.6	152.697	25.42	34.85	272
115.000	0.10794	9.265	0.009198	8.962	11977.9	12904.3	153.780	25.35	34.67	273
120.000	0.10366	9.703	0.008753	9.425	12106.9	13077.2	155.251	25.28	34.47	283
125.000	0.09863	10.139	0.008356	9.882	12235.3	13249.3	156.654	25.23	34.31	284
130.000	0.09458	10.573	0.007996	10.334	12363.3	13420.6	157.997	25.19	34.18	296
135.000	0.09087	11.004	0.007670	10.782	12490.9	13591.4	159.285	25.16	34.08	302
140.000	0.08746	11.434	0.007371	11.227	12618.2	13761.7	160.523	25.14	34.00	308
145.000	0.08430	11.863	0.007096	11.668	12745.3	13931.6	161.715	25.12	33.93	313
150.000	0.08137	12.290	0.006842	12.108	12872.2	14101.2	162.865	25.11	33.87	319
155.000	0.07864	12.717	0.006607	12.545	12999.0	14270.6	163.975	25.11	33.83	325
160.000	0.07609	13.142	0.006388	12.980	13125.6	14439.8	165.048	25.11	33.79	330
165.000	0.07371	13.567	0.006184	13.414	13252.1	14608.8	166.087	25.11	33.77	335
170.000	0.07148	13.990	0.005993	13.846	13378.6	14777.7	167.095	25.11	33.75	341
175.000	0.06930	14.414	0.005814	14.277	13505.1	14946.5	168.073	25.12	33.73	346
180.000	0.06746	14.837	0.005646	14.707	13631.6	15115.3	169.023	25.14	33.73	351
185.000	0.06554	15.259	0.005487	15.136	13758.1	15284.0	169.947	25.16	33.73	356
190.000	0.06377	15.681	0.005337	15.564	13884.7	15452.8	170.847	25.18	33.74	360
195.000	0.06210	16.102	0.005196	15.991	14011.4	15621.6	171.723	25.21	33.75	365
200.000	0.06052	16.523	0.005062	16.418	14138.2	15790.5	172.578	25.25	33.77	370
205.000	0.05902	16.944	0.004935	16.844	14265.2	15959.6	173.412	25.29	33.80	375
210.000	0.05759	17.364	0.004814	17.269	14392.4	16128.8	174.227	25.34	33.84	379
215.000	0.05623	17.784	0.004699	17.693	14519.8	16298.2	175.024	25.39	33.88	384
220.000	0.05493	18.204	0.004590	18.118	14647.5	16467.9	175.803	25.46	33.93	389
225.000	0.05369	18.624	0.004485	18.541	14775.4	16637.8	176.557	25.52	33.99	392
230.000	0.05251	19.043	0.004386	18.964	14903.8	16808.1	177.314	25.60	34.05	397
235.000	0.05138	19.463	0.004291	19.387	15032.4	16979.7	178.048	25.68	34.14	401
240.000	0.05030	19.882	0.004199	19.810	15161.5	17149.7	178.767	25.77	34.22	405
245.000	0.04926	20.300	0.004112	20.232	15291.1	17321.1	179.474	25.87	34.31	409
250.000	0.04826	20.719	0.004028	20.654	15421.2	17493.1	180.168	25.98	34.41	413
255.000	0.04731	21.138	0.003948	21.075	15551.8	17665.5	180.850	26.09	34.52	417
260.000	0.04639	21.556	0.003871	21.496	15682.9	17838.5	181.522	26.21	34.64	421
265.000	0.04551	21.975	0.003797	21.917	15814.7	18012.2	182.183	26.35	34.75	425
270.000	0.04466	22.393	0.003726	22.338	15947.2	18186.4	182.834	26.48	34.93	429
275.000	0.04384	22.811	0.003657	22.759	16080.3	18361.4	183.475	26.63	35.04	432
280.000	0.04305	23.229	0.003591	23.179	16214.2	18537.1	184.108	26.78	35.19	436
285.000	0.04229	23.647	0.003527	23.599	16348.9	18713.5	184.732	26.95	35.35	439
290.000	0.04155	24.065	0.003465	24.019	16484.3	18890.8	185.348	27.11	35.51	443
295.000	0.04085	24.482	0.003406	24.439	16620.7	19068.9	185.957	27.29	35.68	446
300.000	0.04016	24.900	0.003349	24.858	16757.9	19247.9	186.558	27.47	35.86	450
310.000	0.03886	25.735	0.003239	25.697	17035.2	19608.7	187.740	27.86	36.25	455
320.000	0.03764	26.570	0.003137	26.535	17316.5	19973.4	188.897	28.28	36.66	463
330.000	0.03649	27.404	0.003041	27.373	17602.0	20342.4	190.032	28.72	37.09	469
340.000	0.03541	28.238	0.002951	28.210	17892.0	20715.9	191.146	29.18	37.55	476
350.000	0.03440	29.073	0.002866	29.046	18186.7	21094.0	192.241	29.66	38.03	482
360.000	0.03344	29.906	0.002786	29.883	18486.3	21477.0	193.320	30.16	38.53	488
370.000	0.03253	30.740	0.002710	30.719	18791.0	21855.1	194.382	30.68	39.04	494
380.000	0.03167	31.574	0.002638	31.554	19101.0	22238.3	195.430	31.21	39.57	499
390.000	0.03086	32.407	0.002570	32.390	19416.2	22637.0	196.465	31.76	40.11	505
400.000	0.03008	33.241	0.002506	33.225	19737.0	23061.0	197.488	32.31	40.66	511
420.000	0.02865	34.907	0.002386	34.894	20395.3	23886.0	199.498	33.44	41.79	521
440.000	0.02734	36.573	0.002277	36.563	21076.4	24733.7	201.469	34.59	42.93	532
460.000	0.02615	38.233	0.002177	38.231	21780.6	25604.4	203.403	35.75	44.09	542
480.000	0.02500	39.904	0.002086	39.899	22507.9	26498.3	205.304	36.91	45.25	552
500.000	0.02406	41.569	0.002002	41.565	23258.4	27415.2	207.174	38.06	46.40	562

METHANE ISOBAR AT P = 1.5 BAR

T	DEN	VOL	DP/OT	OP/00	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
90.715	28.150	0.03552	20.7203	250.339	3477.6	3477.6	67.884	33.11	52.74	1577
95.000	27.793	0.03598	19.6175	233.978	3688.5	3693.9	70.327	32.96	53.19	1534
100.000	27.370	0.03654	18.3911	215.168	3948.5	3954.0	73.076	33.05	54.03	1481
105.000	26.937	0.03712	17.2252	196.833	4215.9	4221.4	75.735	33.13	54.94	1426
110.000	26.494	0.03774	16.1144	179.104	4489.5	4495.2	78.310	33.06	55.78	1372
115.000	26.037	0.03841	15.0526	162.057	4768.5	4774.2	80.807	32.83	56.55	1313
116.621	25.886	0.03863	14.7180	156.687	4859.8	4855.6	81.600	32.72	56.78	1302
116.621	0.16213	6.168	0.013994	8.800	11991.4	12916.6	150.648	25.57	35.45	275
120.000	0.15695	6.372	0.013498	9.131	12080.3	13036.0	151.657	25.49	35.21	280
125.000	0.14992	6.670	0.012838	9.613	12210.9	13211.4	153.089	25.40	34.93	287
130.000	0.14355	6.965	0.012250	10.066	12340.7	13335.6	154.454	25.33	34.72	294
135.000	0.13775	7.250	0.011722	10.552	12469.8	13558.8	155.761	25.28	34.54	300
140.000	0.13242	7.552	0.011243	11.012	12598.4	13731.2	157.015	25.24	34.40	305
145.000	0.12752	7.842	0.010806	11.468	12725.7	13930.0	158.220	25.21	34.29	312
150.000	0.12298	8.131	0.010405	11.920	12854.5	14074.2	159.331	25.19	34.19	318
155.000	0.11878	8.419	0.010035	12.369	12982.2	14255.0	160.501	25.17	34.12	323
160.000	0.11486	8.705	0.009692	12.814	13109.6	14415.5	161.583	25.16	34.05	329
165.000	0.11120	8.992	0.009374	13.258	13236.8	14595.7	162.630	25.16	34.00	334
170.000	0.10778	9.276	0.009077	13.699	13364.0	14755.7	163.644	25.16	33.96	339
175.000	0.10457	9.563	0.008799	14.138	13491.0	14925.5	164.628	25.16	33.93	345
180.000	0.10155	9.847	0.008539	14.575	13618.0	15095.1	165.584	25.18	33.91	350
185.000	0.09871	10.131	0.008294	15.011	13745.0	15254.7	166.512	25.19	33.89	355
190.000	0.09602	10.414	0.008064	15.445	13872.1	15434.2	167.416	25.21	33.88	360
195.000	0.09348	10.697	0.007846	15.878	13999.2	15633.7	168.297	25.24	33.89	365
200.000	0.09108	10.980	0.007641	16.310	14126.3	15773.3	169.155	25.28	33.91	369
205.000	0.08879	11.262	0.007446	16.741	14253.7	15943.0	169.992	25.32	33.93	374
210.000	0.08663	11.544	0.007261	17.171	14381.1	16112.7	170.810	25.36	33.95	379
215.000	0.08456	11.826	0.007086	17.601	14508.8	16282.7	171.610	25.41	33.99	383
220.000	0.08260	12.107	0.006919	18.029	14636.8	16452.8	172.391	25.47	34.04	387
225.000	0.08072	12.388	0.006760	18.457	14765.0	16623.2	173.157	25.54	34.09	392
230.000	0.07893	12.659	0.006608	18.884	14893.5	16793.9	173.907	25.62	34.15	396
235.000	0.07722	12.950	0.006463	19.310	15022.4	16964.9	174.642	25.70	34.22	400
240.000	0.07558	13.230	0.006324	19.736	15151.7	17136.2	175.363	25.79	34.30	405
245.000	0.07402	13.511	0.006191	20.162	15281.5	17308.0	176.071	25.89	34.39	409
250.000	0.07251	13.791	0.006064	20.587	15411.7	17480.3	176.767	25.99	34.48	413
255.000	0.07107	14.071	0.005942	21.011	15542.4	17653.1	177.451	26.10	34.59	417
260.000	0.06968	14.351	0.005825	21.435	15673.8	17826.4	178.124	26.23	34.70	420
265.000	0.06835	14.630	0.005713	21.859	15805.7	18000.3	178.786	26.36	34.83	424
270.000	0.06707	14.910	0.005605	22.282	15938.3	18174.8	179.438	26.49	34.96	428
275.000	0.06583	15.190	0.005501	22.705	16071.6	18350.0	180.081	26.64	35.10	432
280.000	0.06465	15.469	0.005401	23.128	16205.0	18525.9	180.715	26.79	35.24	436
285.000	0.06350	15.748	0.005304	23.550	16340.4	18702.6	181.340	26.95	35.40	439
290.000	0.06239	16.028	0.005211	23.972	16475.9	18880.1	181.957	27.12	35.56	443
295.000	0.06132	16.307	0.005121	24.394	16612.4	19058.4	182.566	27.30	35.73	446
300.000	0.06029	16.586	0.005034	24.816	16749.7	19237.6	183.168	27.48	35.91	450
310.000	0.05833	17.144	0.004869	25.658	17027.2	19538.8	184.352	27.87	36.29	455
320.000	0.05649	17.701	0.004715	26.500	17308.6	19933.8	185.510	28.29	36.70	460
330.000	0.05477	18.259	0.004570	27.340	17594.3	20333.1	186.646	28.72	37.13	465
340.000	0.05315	18.816	0.004434	28.180	17884.4	20736.8	187.761	29.19	37.59	470
350.000	0.05162	19.373	0.004306	29.020	18179.3	21085.2	188.857	29.67	38.06	482
360.000	0.05018	19.930	0.004185	29.859	18479.0	21468.4	189.937	30.17	38.56	485
370.000	0.04881	20.486	0.004071	30.697	18783.3	21856.7	191.000	30.69	39.07	499
380.000	0.04752	21.043	0.003962	31.535	19093.8	22250.2	192.049	31.22	39.59	499
390.000	0.04630	21.599	0.003860	32.373	19409.1	22649.0	193.084	31.76	40.13	505
400.000	0.04514	22.155	0.003763	33.210	19730.0	23053.2	194.107	32.31	40.68	511
420.000	0.04298	23.267	0.003582	34.883	20388.4	23878.5	196.119	33.45	41.81	521
440.000	0.04102	24.379	0.003418	36.555	21069.6	24726.4	198.091	34.60	42.95	532
460.000	0.03923	25.490	0.003268	38.226	21773.8	25537.3	200.025	35.76	44.11	542
480.000	0.03759	26.601	0.003131	39.896	22501.2	26431.4	201.927	36.92	45.26	552
500.000	0.03609	27.712	0.003006	41.565	23251.7	27408.5	203.798	38.07	46.41	562

METHANE ISOBAR AT P = 2.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
30.728	28.151	0.03552	20.7187	250.406	3472.4	3479.5	67.886	33.12	52.74	1577
45.000	27.795	0.03598	19.0196	234.100	3688.0	3695.2	70.322	32.97	53.19	1534
100.000	27.372	0.03653	18.3937	215.299	3947.9	3955.2	73.071	33.05	54.03	1481
105.000	26.940	0.03712	17.2283	196.973	4215.2	4222.6	75.729	33.13	54.93	1427
110.000	26.497	0.03774	16.1179	179.251	4488.8	4496.4	78.304	33.07	55.78	1373
115.000	26.040	0.03840	15.0566	162.212	4767.7	4775.3	80.800	32.83	56.54	1319
120.000	25.566	0.03911	14.0365	145.897	5051.0	5058.8	83.222	32.46	57.27	1265
120.588	25.511	0.03920	13.9214	144.020	5084.5	5092.4	83.502	32.43	57.36	1261
120.588	0.21140	4.730	0.018414	8.887	12068.5	13014.5	149.205	25.72	36.01	279
125.000	0.20270	4.933	0.017557	9.330	12185.9	13172.0	151.492	25.59	35.63	285
130.000	0.19376	5.161	0.016099	9.832	12317.7	13349.9	151.883	25.48	35.30	291
135.000	0.18566	5.386	0.015937	10.317	12448.6	13525.8	153.210	25.40	35.05	298
140.000	0.17828	5.609	0.015253	10.795	12578.7	13710.5	154.431	25.35	34.84	304
145.000	0.17151	5.831	0.014634	11.266	12703.1	13874.3	155.700	25.30	34.67	310
150.000	0.16527	6.051	0.014069	11.731	12837.1	14047.3	156.873	25.26	34.53	315
155.000	0.15949	6.270	0.013551	12.192	12965.7	14219.7	158.004	25.24	34.42	322
160.000	0.15413	6.488	0.013074	12.648	13094.0	14391.6	159.095	25.22	34.32	328
165.000	0.14914	6.700	0.012632	13.101	13222.0	14563.0	160.150	25.21	34.25	333
170.000	0.14448	6.921	0.012222	13.551	13349.9	14734.1	161.171	25.21	34.18	338
175.000	0.14011	7.137	0.011839	13.998	13477.5	14904.9	162.161	25.21	34.13	343
180.000	0.13601	7.352	0.011481	14.443	13605.1	15075.5	163.122	25.21	34.09	349
185.000	0.13216	7.567	0.011145	14.886	13732.6	15246.0	164.056	25.23	34.07	354
190.000	0.12852	7.781	0.010830	15.326	13860.1	15416.3	164.964	25.25	34.05	359
195.000	0.12506	7.995	0.010533	15.765	13987.6	15586.6	165.849	25.27	34.04	364
200.000	0.12183	8.208	0.010252	16.203	14115.2	15756.8	166.710	25.30	34.04	369
205.000	0.11875	8.421	0.009987	16.639	14242.9	15927.1	167.551	25.34	34.05	373
210.000	0.11583	8.634	0.009736	17.074	14370.7	16097.5	168.372	25.38	34.07	378
215.000	0.11305	8.846	0.009497	17.508	14498.7	16267.9	169.174	25.43	34.10	383
220.000	0.11046	9.058	0.009271	17.941	14627.0	16438.6	169.958	25.49	34.14	387
225.000	0.10786	9.270	0.009055	18.372	14755.5	16609.5	170.726	25.56	34.19	391
230.000	0.10547	9.482	0.008849	18.803	14884.3	16780.6	171.478	25.63	34.24	396
235.000	0.10317	9.693	0.008653	19.233	15013.4	16952.0	172.215	25.71	34.31	400
240.000	0.10097	9.904	0.008466	19.663	15142.9	17123.8	172.938	25.80	34.38	404
245.000	0.09886	10.115	0.008287	20.091	15272.9	17296.0	173.648	25.90	34.47	408
250.000	0.09684	10.326	0.008115	20.519	15403.3	17468.6	174.345	26.00	34.56	412
255.000	0.09490	10.537	0.007950	20.947	15534.3	17641.7	175.031	26.12	34.65	416
260.000	0.09304	10.748	0.007793	21.374	15665.8	17815.3	175.705	26.24	34.77	420
265.000	0.09126	10.959	0.007641	21.800	15797.9	17989.5	176.368	26.37	34.89	424
270.000	0.08954	11.169	0.007495	22.226	15930.6	18164.3	177.022	26.50	35.02	428
275.000	0.08788	11.379	0.007355	22.651	16064.0	18339.8	177.665	26.55	35.15	432
280.000	0.08629	11.589	0.007220	23.076	16198.2	18516.0	178.300	26.80	35.30	436
285.000	0.08475	11.799	0.007090	23.501	16333.1	18692.9	178.926	26.96	35.45	439
290.000	0.08327	12.009	0.006965	23.925	16468.6	18870.6	179.544	27.13	35.61	442
295.000	0.08184	12.219	0.006844	24.349	16605.4	19049.2	180.154	27.31	35.79	445
300.000	0.08046	12.429	0.006728	24.772	16742.8	19228.6	180.757	27.49	35.96	449
310.000	0.07783	12.648	0.006506	25.618	17020.5	19590.1	181.942	27.88	36.33	459
320.000	0.07537	13.257	0.006299	26.463	17302.1	19955.6	183.102	28.29	36.74	469
330.000	0.07307	13.630	0.006114	27.307	17588.0	20325.2	184.239	28.73	37.17	469
340.000	0.07090	14.135	0.005922	28.150	17878.3	20699.2	185.355	29.19	37.62	470
350.000	0.06886	14.523	0.005750	28.993	18173.3	21077.9	186.453	29.66	38.03	482
360.000	0.06693	14.941	0.005588	29.834	18473.1	21451.4	187.533	30.16	38.53	493
370.000	0.06511	15.359	0.005435	30.675	18778.1	21849.9	188.597	30.69	39.11	494
380.000	0.06338	15.777	0.005290	31.515	19088.2	22243.6	189.646	31.22	39.62	499
390.000	0.06175	16.195	0.005152	32.355	19403.7	22642.7	190.683	31.77	40.16	505
400.000	0.06020	16.613	0.005022	33.194	19724.6	23047.1	191.706	32.32	40.71	510
420.000	0.05732	17.447	0.004781	34.871	20383.2	23872.7	193.719	33.45	41.83	521
440.000	0.05470	18.292	0.004561	36.546	21064.5	24720.9	195.692	34.60	42.97	532
460.000	0.05231	19.116	0.004361	38.219	21768.9	25592.2	197.627	35.76	44.13	542
480.000	0.05013	19.950	0.004178	39.892	22496.5	26486.5	199.530	36.92	45.28	552
500.000	0.04812	20.783	0.004010	41.563	23247.1	27403.8	201.401	38.07	46.42	562

METHANE ISOJAR AT P = 3.0 BAR

T	DEN	VOL	OP/OT	OP/OD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
90.754	28.153	0.03552	20.7154	250.539	3472.7	3483.4	67.890	33.12	52.73	1577
95.000	27.799	0.03597	19.6238	234.344	3687.0	3697.8	70.311	32.98	53.18	1535
100.000	27.377	0.03653	18.3988	215.562	3946.8	3957.7	73.059	33.06	54.02	1482
105.000	26.945	0.03711	17.2344	197.253	4214.0	4225.1	75.717	33.14	54.92	1427
110.000	26.502	0.03773	16.1250	179.545	4487.4	4498.6	78.291	33.08	55.70	1374
115.000	26.046	0.03839	15.0647	162.520	4766.1	4777.6	80.787	32.84	56.51	1320
120.000	25.574	0.03910	14.0476	146.218	5049.2	5060.9	83.207	32.49	57.25	1267
125.000	25.084	0.03987	13.0680	130.649	5336.6	5348.6	85.560	32.09	58.06	1214
129.681	24.915	0.04014	12.7462	125.577	5434.3	5446.3	86.338	31.37	58.37	1195
126.681	0.30803	3.246	0.027276	8.940	12178.8	13152.8	147.174	25.98	37.09	282
130.000	0.29829	3.352	0.026263	9.302	12263.4	13275.2	149.128	25.85	36.68	287
135.000	0.28492	3.510	0.024913	9.833	12404.4	13457.3	149.502	25.70	36.13	294
140.000	0.27287	3.665	0.023728	10.349	12537.9	13637.3	150.812	25.58	35.81	300
145.000	0.26193	3.818	0.022674	10.853	12670.2	13815.6	152.063	25.50	35.51	307
150.000	0.25193	3.963	0.021727	11.347	12801.7	13992.5	153.263	25.44	35.27	313
155.000	0.24274	4.120	0.020868	11.833	12932.5	14168.4	154.416	25.39	35.07	319
160.000	0.23426	4.269	0.020085	12.313	13062.7	14343.3	155.526	25.35	34.90	325
165.000	0.22640	4.417	0.019366	12.786	13192.4	14517.4	156.598	25.32	34.76	331
170.000	0.21909	4.564	0.018703	13.254	13321.7	14691.0	157.634	25.30	34.65	336
175.000	0.21227	4.711	0.018089	13.719	13450.7	14864.0	158.637	25.29	34.56	342
180.000	0.20589	4.857	0.017518	14.179	13573.5	15036.6	159.610	25.29	34.43	347
185.000	0.19991	5.002	0.016984	14.636	13708.2	15208.9	160.554	25.30	34.42	352
190.000	0.19420	5.147	0.016486	15.090	13836.7	15380.9	161.471	25.31	34.33	357
195.000	0.18897	5.292	0.016017	15.541	13965.1	15552.7	162.363	25.33	34.34	362
200.000	0.18396	5.436	0.015577	15.996	14093.6	15724.4	163.233	25.36	34.32	367
205.000	0.17922	5.580	0.015162	16.437	14222.1	15896.0	164.080	25.39	34.31	372
210.000	0.17473	5.723	0.014769	16.881	14350.6	16067.6	164.907	25.43	34.32	377
215.000	0.17047	5.866	0.014396	17.324	14479.3	16239.2	165.715	25.48	34.33	381
220.000	0.16641	6.009	0.014046	17.766	14608.2	16410.9	166.504	25.53	34.35	386
225.000	0.16255	6.152	0.013711	18.206	14737.3	16582.8	167.277	25.60	34.33	390
230.000	0.15888	6.294	0.013393	18.644	14866.6	16754.9	168.033	25.67	34.43	395
235.000	0.15537	6.436	0.013090	19.081	14996.3	16927.2	168.774	25.75	34.49	399
240.000	0.15201	6.578	0.012801	19.518	15126.3	17099.8	169.501	25.83	34.55	403
245.000	0.14880	6.720	0.012525	19.953	15256.7	17272.8	170.214	25.93	34.63	408
250.000	0.14573	6.862	0.012260	20.387	15387.6	17446.1	170.914	26.03	34.71	412
255.000	0.14279	7.003	0.012008	20.826	15518.9	17619.9	171.602	26.14	34.80	416
260.000	0.13996	7.145	0.011765	21.252	15650.8	17794.2	172.279	26.26	34.91	420
265.000	0.13725	7.286	0.011533	21.684	15783.3	17969.1	172.945	26.39	35.02	424
270.000	0.13464	7.427	0.011310	22.115	15916.4	18144.5	173.601	26.53	35.14	427
275.000	0.13213	7.568	0.011096	22.545	16050.1	18320.6	174.247	26.67	35.27	431
280.000	0.12972	7.709	0.010890	22.975	16184.6	18497.3	174.884	26.82	35.41	435
285.000	0.12739	7.850	0.010691	23.404	16319.8	18674.7	175.512	26.98	35.56	439
290.000	0.12515	7.990	0.010500	23.832	16455.8	18853.0	176.132	27.15	35.72	442
295.000	0.12298	8.131	0.010316	24.260	16592.7	19032.0	176.743	27.33	35.88	446
300.000	0.12090	8.272	0.010138	24.687	16730.4	19211.8	177.348	27.51	36.05	449
310.000	0.11693	8.552	0.009860	25.541	17008.5	19574.3	178.536	27.89	36.42	459
320.000	0.11321	8.833	0.009485	26.392	17290.6	19940.5	179.699	28.31	36.82	469
330.000	0.10973	9.113	0.009190	27.242	17576.9	20310.8	180.838	28.75	37.24	469
340.000	0.10646	9.393	0.008912	28.091	17867.6	20685.9	181.956	29.21	37.69	475
350.000	0.10338	9.673	0.008652	28.939	18162.9	21064.8	183.056	29.69	38.16	482
360.000	0.10047	9.953	0.008406	29.785	18463.1	21448.9	184.137	30.19	38.65	489
370.000	0.09773	10.232	0.008174	30.631	18768.3	21838.0	185.203	30.70	39.15	493
380.000	0.09513	10.512	0.007955	31.475	19078.7	22232.2	186.254	31.23	39.63	499
390.000	0.09267	10.791	0.007747	32.319	19394.5	22631.7	187.292	31.78	40.21	505
400.000	0.09034	11.070	0.007550	33.162	19715.6	23036.6	188.317	32.33	40.79	511
420.000	0.08600	11.628	0.007185	34.845	20374.7	23863.0	190.332	33.46	41.87	521
440.000	0.08207	12.185	0.006854	36.526	21056.5	24711.9	192.306	34.61	43.01	532
460.000	0.07848	12.742	0.006552	38.206	21761.2	25583.8	194.243	35.77	44.16	542
480.000	0.07520	13.299	0.006276	39.883	22489.1	26478.6	196.147	36.93	45.31	552
500.000	0.07218	13.855	0.006022	41.559	23240.0	27390.5	198.020	38.08	46.45	562

METHANE ISOBAR AT P = 4.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
90.780	28.155	0.03552	20.7121	250.673	3473.0	3487.2	67.894	33.13	52.73	1577
95.000	27.803	0.03597	19.6280	234.587	3686.0	3700.3	70.300	32.99	53.17	1535
100.000	27.381	0.03652	18.4040	215.824	3945.6	3950.2	73.048	33.07	54.00	1482
105.000	26.950	0.03711	17.2405	197.532	4212.7	4227.5	75.705	33.15	54.90	1428
110.000	26.508	0.03772	16.1321	179.839	4486.0	4501.1	78.278	33.09	55.74	1374
115.000	26.052	0.03838	15.0727	162.827	4764.5	4779.9	81.773	32.85	56.49	1321
120.000	25.581	0.03909	14.0566	146.539	5047.5	5063.1	83.193	32.50	57.22	1268
125.000	25.092	0.03985	13.0781	130.983	5334.6	5350.6	85.544	32.16	58.03	1215
130.000	24.582	0.04068	12.1319	116.139	5626.6	5642.8	87.839	31.75	59.02	1160
131.403	24.434	0.04093	11.8714	112.098	5709.4	5725.8	88.474	31.67	59.34	1144
131.403	0.40334	2.479	0.036256	8.903	12255.8	13248.5	145.724	26.21	38.14	284
135.000	0.38935	2.563	0.034737	9.322	12357.3	13384.7	146.746	26.04	37.57	290
140.000	0.37172	2.630	0.032892	9.883	12494.9	13570.9	148.101	25.86	36.95	297
145.000	0.35592	2.810	0.031286	10.424	12630.6	13734.4	149.389	25.73	36.47	304
150.000	0.34162	2.927	0.029866	10.951	12764.9	13935.8	150.619	25.63	36.03	310
155.000	0.32858	3.043	0.028597	11.465	12898.2	14115.5	151.797	25.55	35.73	316
160.000	0.31663	3.158	0.027451	11.970	13030.5	14233.8	152.929	25.49	35.44	323
165.000	0.30561	3.272	0.026409	12.465	13162.1	14470.9	154.020	25.44	35.33	329
170.000	0.29541	3.385	0.025455	12.954	13293.1	14647.1	155.072	25.41	35.19	334
175.000	0.28593	3.497	0.024578	13.436	13423.6	14822.5	156.088	25.39	35.11	340
180.000	0.27705	3.609	0.023766	13.913	13553.7	14997.3	157.073	25.38	34.89	345
185.000	0.26882	3.720	0.023013	14.385	13683.6	15171.5	158.028	25.37	34.83	351
190.000	0.26107	3.830	0.022311	14.852	13813.2	15345.3	158.955	25.38	34.72	356
195.000	0.25379	3.940	0.021655	15.316	13942.6	15518.8	159.856	25.39	34.65	361
200.000	0.24692	4.050	0.021040	15.777	14072.0	15692.0	160.733	25.41	34.62	366
205.000	0.24044	4.159	0.020462	16.234	14201.3	15865.0	161.587	25.44	34.53	371
210.000	0.23431	4.268	0.019918	16.689	14330.7	16037.8	162.420	25.48	34.57	376
215.000	0.22849	4.376	0.019403	17.142	14460.1	16210.7	163.234	25.52	34.56	380
220.000	0.22298	4.485	0.018917	17.592	14589.6	16383.5	164.028	25.57	34.57	385
225.000	0.21773	4.593	0.018456	18.040	14719.3	16556.4	164.806	25.63	34.53	390
230.000	0.21274	4.701	0.018018	18.486	14849.3	16729.5	165.566	25.70	34.63	394
235.000	0.20798	4.808	0.017602	18.931	14979.5	16902.7	166.311	25.78	34.67	399
240.000	0.20344	4.915	0.017205	19.374	15110.0	17076.2	167.042	25.86	34.72	403
245.000	0.19910	5.023	0.016827	19.816	15240.9	17250.0	167.758	25.96	34.73	407
250.000	0.19494	5.130	0.016466	20.256	15372.2	17424.1	168.462	26.06	34.80	411
255.000	0.19096	5.237	0.016121	20.695	15504.0	17598.7	169.153	26.17	34.95	415
260.000	0.18715	5.343	0.015790	21.133	15636.3	17773.7	169.833	26.29	35.04	419
265.000	0.18349	5.450	0.015474	21.570	15769.2	17949.2	170.501	26.41	35.15	423
270.000	0.17997	5.556	0.015170	22.006	15902.6	18125.2	171.159	26.55	35.27	427
275.000	0.17659	5.663	0.014879	22.441	16036.8	18301.9	171.808	26.69	35.39	431
280.000	0.17334	5.769	0.014599	22.875	16171.6	18479.2	172.446	26.84	35.53	434
285.000	0.17021	5.875	0.014329	23.309	16307.1	18657.2	173.076	27.00	35.67	439
290.000	0.16719	5.981	0.014070	23.741	16443.4	18835.9	173.698	27.17	35.82	442
295.000	0.16428	6.087	0.013820	24.173	16580.5	19015.4	174.312	27.34	35.98	445
300.000	0.16147	6.193	0.013579	24.604	16718.5	19195.7	174.918	27.53	36.15	449
310.000	0.15614	6.405	0.013122	25.465	16997.2	19559.0	176.109	27.91	36.51	456
320.000	0.15115	6.615	0.012696	26.323	17279.3	19926.1	177.274	28.32	36.90	462
330.000	0.14648	6.827	0.012297	27.179	17566.5	20297.2	178.416	28.76	37.32	469
340.000	0.14209	7.033	0.011923	28.034	17857.6	20672.6	179.537	29.22	37.76	475
350.000	0.13797	7.248	0.011572	28.880	18153.3	21052.5	180.638	29.70	38.22	481
360.000	0.13408	7.458	0.011241	29.738	18453.8	21437.2	181.721	30.20	38.71	487
370.000	0.13040	7.663	0.010928	30.588	18759.4	21826.9	182.789	30.72	39.21	493
380.000	0.12692	7.879	0.010633	31.436	19070.1	22221.6	183.841	31.25	39.73	499
390.000	0.12363	8.093	0.010354	32.284	19386.1	22621.6	184.880	31.79	40.25	505
400.000	0.12051	8.298	0.010089	33.130	19707.6	23026.9	185.906	32.34	40.80	510
420.000	0.11471	8.718	0.009598	34.821	20367.2	23834.2	187.924	33.47	41.91	521
440.000	0.10945	9.135	0.009154	36.508	21044.4	24703.9	189.900	34.62	43.05	532
460.000	0.10466	9.555	0.008749	38.192	21754.5	25576.4	191.839	35.78	44.20	542
480.000	0.10027	9.973	0.008379	39.874	22482.8	26471.9	193.744	36.94	45.34	552
500.000	0.09624	10.391	0.008039	41.554	23234.0	27390.2	195.618	38.09	46.48	562

METHANE ISOBAR AT P = 5.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
90.805	28.157	0.03552	20.7088	250.806	3473.3	3431.1	67.899	33.14	52.72	1577
95.000	27.808	0.03596	19.6322	234.830	3684.9	3702.9	70.289	33.00	53.16	1536
100.000	27.386	0.03652	18.4092	216.086	3944.5	3962.8	73.037	33.08	53.99	1483
105.000	26.955	0.03710	17.2466	197.810	4211.4	4230.0	75.693	33.16	54.83	1423
110.000	26.513	0.03772	16.1391	180.132	4484.6	4503.5	78.266	33.10	55.72	1375
115.000	26.058	0.03838	15.0806	163.134	4763.0	4782.2	80.759	32.86	56.47	1322
120.000	25.588	0.03908	14.0656	146.859	5045.7	5065.2	83.178	32.50	57.19	1269
125.000	25.100	0.03984	13.0382	131.316	5332.7	5352.6	85.529	32.11	57.93	1219
130.000	24.590	0.04067	12.1432	116.486	5624.3	5644.7	87.822	31.76	58.93	1161
135.000	24.056	0.04157	11.2249	102.327	5921.7	5942.4	90.070	31.51	59.23	1104
135.319	24.021	0.04153	11.1672	101.446	5940.8	5961.6	90.212	31.50	59.33	1101
135.319	0.49816	2.007	0.047412	8.817	12315.8	13319.4	144.585	26.44	39.13	285
140.000	0.47549	2.113	0.042872	9.391	12449.1	13500.7	145.902	26.18	38.30	293
145.000	0.45396	2.203	0.040557	9.976	12588.9	13630.3	147.233	25.98	37.58	300
150.000	0.43469	2.301	0.038549	10.540	12726.5	13876.8	148.438	25.84	37.03	307
155.000	0.41727	2.397	0.036782	11.086	12862.5	14050.8	149.705	25.72	36.59	314
160.000	0.40142	2.491	0.035205	11.617	12997.2	14242.8	150.861	25.64	36.23	320
165.000	0.38690	2.585	0.033786	12.137	13130.9	14423.2	151.971	25.57	35.94	326
170.000	0.37353	2.677	0.032498	12.647	13263.7	14602.3	153.040	25.52	35.71	332
175.000	0.36116	2.759	0.031321	13.148	13395.9	14780.3	154.072	25.49	35.50	338
180.000	0.34967	2.860	0.030240	13.643	13527.4	14957.3	155.070	25.46	35.33	343
185.000	0.33896	2.950	0.029241	14.130	13658.6	15133.7	156.036	25.45	35.19	349
190.000	0.32895	3.040	0.028315	14.612	13789.4	15309.3	156.973	25.45	35.08	354
195.000	0.31956	3.129	0.027453	15.089	13919.9	15484.5	157.883	25.45	34.93	360
200.000	0.31074	3.218	0.026647	15.562	14050.2	15659.3	158.768	25.47	34.92	366
205.000	0.30242	3.307	0.025893	16.031	14180.4	15833.7	159.629	25.49	34.87	370
210.000	0.29457	3.395	0.025184	16.496	14310.6	16008.0	160.469	25.52	34.83	375
215.000	0.28715	3.483	0.024517	16.959	14440.8	16182.0	161.288	25.56	34.81	379
220.000	0.28011	3.570	0.023886	17.418	14571.0	16356.1	162.088	25.61	34.80	384
225.000	0.27342	3.657	0.023291	17.875	14701.4	16530.1	162.871	25.67	34.80	388
230.000	0.26707	3.744	0.022726	18.329	14831.9	16704.1	163.636	25.74	34.82	393
235.000	0.26102	3.831	0.022190	18.781	14962.7	16878.3	164.385	25.81	34.85	398
240.000	0.25524	3.916	0.021680	19.231	15093.6	17052.7	165.119	25.89	34.90	402
245.000	0.24974	4.004	0.021195	19.680	15224.2	17227.3	165.839	25.99	34.95	406
250.000	0.24447	4.090	0.020732	20.126	15357.0	17402.2	166.546	26.09	35.02	410
255.000	0.23943	4.177	0.020290	20.571	15489.2	17577.5	167.240	26.19	35.10	414
260.000	0.23460	4.263	0.019868	21.015	15622.0	17753.2	167.923	26.31	35.18	418
265.000	0.22997	4.348	0.019464	21.457	15755.2	17929.4	168.594	26.44	35.26	422
270.000	0.22553	4.434	0.019076	21.898	15889.1	18106.1	169.254	26.57	35.33	426
275.000	0.22126	4.520	0.018704	22.338	16023.5	18283.4	169.905	26.71	35.51	430
280.000	0.21715	4.605	0.018348	22.777	16158.7	18461.2	170.546	26.86	35.64	434
285.000	0.21320	4.690	0.018005	23.215	16294.5	18639.8	171.178	27.02	35.78	438
290.000	0.20933	4.776	0.017675	23.651	16431.2	18819.0	171.801	27.19	35.92	441
295.000	0.20572	4.861	0.017357	24.087	16568.6	18999.1	172.417	27.36	36.06	445
300.000	0.20218	4.946	0.017052	24.522	16705.9	19179.9	173.024	27.54	36.24	448
310.000	0.19547	5.116	0.016472	25.390	16986.1	19544.1	174.219	27.93	36.60	459
320.000	0.18919	5.286	0.015932	26.255	17263.1	19912.0	175.386	28.34	36.94	469
330.000	0.18332	5.455	0.015427	27.117	17556.3	20283.8	176.531	28.77	37.39	479
340.000	0.17780	5.624	0.014954	27.977	17847.8	20659.9	177.653	29.23	37.83	479
350.000	0.17262	5.793	0.014509	28.835	18143.9	21040.5	178.757	29.71	38.23	481
360.000	0.16773	5.962	0.014091	29.691	18444.9	21425.9	179.842	30.21	38.77	487
370.000	0.16312	6.131	0.013697	30.546	18750.8	21816.1	180.911	30.73	39.27	493
380.000	0.15875	6.299	0.013325	31.399	19061.8	22211.3	181.965	31.26	39.78	499
390.000	0.15462	6.467	0.012973	32.250	19378.1	22611.8	183.005	31.80	40.31	505
400.000	0.15070	6.636	0.012639	33.101	19699.9	23017.7	184.033	32.35	40.85	510
420.000	0.14344	6.972	0.012021	34.798	20360.0	23845.8	186.052	33.48	41.90	521
440.000	0.13685	7.307	0.011462	36.491	21042.6	24636.2	188.030	34.63	43.03	532
460.000	0.13085	7.642	0.010953	38.180	21748.2	25509.5	189.971	35.79	44.23	542
480.000	0.12535	7.977	0.010488	39.867	22476.9	26435.6	191.677	36.95	45.37	552
500.000	0.12031	8.312	0.010061	41.551	23228.4	27384.5	193.753	38.09	46.51	562

METHANE ISOBAR AT P = 6.0 BAR

T	DEN	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/10L/K	J/MOL/K	J/10L/K	1/SEC
90.831	28.159	0.03551	20.7055	250.940	3473.6	3434.9	67.903	33.14	52.71	1577
95.000	27.812	0.03596	19.6364	235.372	3683.9	3705.5	70.279	33.00	53.15	1536
100.000	27.390	0.03651	18.4143	216.348	3943.4	3965.3	73.025	33.09	53.98	1483
105.000	26.960	0.03709	17.2527	198.088	4210.2	4232.4	75.681	33.17	54.88	1429
110.000	26.519	0.03771	16.1461	180.426	4483.2	4505.9	78.253	33.10	55.70	1376
115.000	26.065	0.03837	15.0886	163.441	4761.4	4784.4	80.746	32.87	56.45	1323
120.000	25.595	0.03907	14.0745	147.179	5044.0	5067.4	83.163	32.51	57.17	1270
125.000	25.107	0.03983	13.0983	131.649	5330.7	5354.6	85.513	32.12	57.95	1217
130.000	24.599	0.04065	12.1544	116.833	5622.1	5646.5	87.804	31.77	58.94	1162
135.000	24.066	0.04155	11.2375	102.589	5919.1	5944.0	90.051	31.52	60.18	1109
138.696	23.053	0.04228	10.5737	92.628	6143.2	6168.5	91.692	31.40	61.33	1062
133.696	0.59307	1.636	0.054784	8.598	12362.0	13373.6	143.640	26.65	40.20	280
140.000	0.58501	1.703	0.053835	8.870	12400.3	13425.9	144.015	26.56	39.92	283
145.000	0.55661	1.797	0.050596	9.507	12544.8	13622.8	145.397	26.28	38.88	295
150.000	0.53153	1.881	0.047853	10.112	12686.3	13815.1	146.701	26.07	38.03	303
155.000	0.50911	1.964	0.045477	10.693	12825.5	14004.0	147.940	25.92	37.43	310
160.000	0.48888	2.040	0.043388	11.254	12962.9	14190.2	149.122	25.80	37.00	317
165.000	0.47045	2.126	0.041528	11.800	13098.8	14374.2	150.254	25.71	36.61	324
170.000	0.45359	2.205	0.039854	12.333	13233.6	14556.4	151.342	25.64	36.23	330
175.000	0.43807	2.285	0.038337	12.855	13367.5	14737.1	152.390	25.59	36.02	335
180.000	0.42372	2.360	0.036952	13.368	13500.6	14916.6	153.402	25.56	35.80	342
185.000	0.41039	2.437	0.035679	13.872	13633.1	15095.2	154.380	25.53	35.61	347
190.000	0.39796	2.513	0.034505	14.369	13765.1	15272.8	155.328	25.52	35.45	353
195.000	0.38634	2.588	0.033417	14.860	13896.8	15449.6	156.247	25.52	35.34	359
200.000	0.37545	2.663	0.032404	15.346	14028.1	15626.2	157.141	25.53	35.24	363
205.000	0.36520	2.738	0.031458	15.826	14159.3	15802.2	158.010	25.55	35.16	368
210.000	0.35555	2.813	0.030573	16.302	14290.3	15977.8	158.856	25.57	35.11	373
215.000	0.34643	2.887	0.029741	16.775	14421.3	16153.2	159.681	25.61	35.06	378
220.000	0.33781	2.960	0.028957	17.243	14552.3	16328.4	160.487	25.66	35.03	383
225.000	0.32963	3.034	0.028218	17.709	14683.3	16503.6	161.274	25.71	35.02	388
230.000	0.32186	3.107	0.027519	18.171	14814.5	16678.7	162.044	25.77	35.03	392
235.000	0.31447	3.180	0.026856	18.631	14945.5	16853.8	162.797	25.84	35.04	397
240.000	0.30744	3.253	0.026227	19.088	15077.5	17029.1	163.536	25.93	35.03	401
245.000	0.30073	3.325	0.025629	19.544	15209.4	17204.6	164.259	26.02	35.12	405
250.000	0.29432	3.398	0.025060	19.997	15341.7	17380.3	164.969	26.11	35.14	410
255.000	0.28819	3.470	0.024517	20.448	15474.4	17556.4	165.667	26.22	35.20	414
260.000	0.28232	3.542	0.023998	20.897	15607.6	17732.8	166.352	26.34	35.33	418
265.000	0.27676	3.614	0.023503	21.345	15741.2	17909.7	167.025	26.46	35.42	422
270.000	0.27130	3.685	0.023028	21.791	15875.5	18087.0	167.688	26.59	35.52	426
275.000	0.26613	3.758	0.022573	22.236	16010.3	18264.9	168.341	26.73	35.63	430
280.000	0.26115	3.829	0.022137	22.679	16145.8	18443.4	168.984	26.88	35.76	434
285.000	0.25636	3.901	0.021718	23.121	16282.0	18622.5	169.618	27.04	35.89	437
290.000	0.25175	3.972	0.021316	23.562	16419.0	18802.3	170.244	27.21	36.03	441
295.000	0.24731	4.043	0.020928	24.002	16556.7	18982.8	170.861	27.38	36.19	445
300.000	0.24303	4.115	0.020555	24.441	16695.3	19164.1	171.470	27.56	36.34	449
310.000	0.23491	4.257	0.019850	25.310	16975.0	19529.2	172.668	27.94	36.63	459
320.000	0.22733	4.393	0.019192	26.188	17258.6	19898.0	173.838	28.35	37.06	462
330.000	0.22023	4.541	0.018579	27.056	17546.2	20270.0	174.985	28.79	37.47	469
340.000	0.21358	4.682	0.018004	27.922	17838.2	20647.4	176.110	29.25	37.90	477
350.000	0.20733	4.823	0.017465	28.785	18134.7	21028.7	177.215	29.73	38.35	481
360.000	0.20143	4.964	0.016958	29.646	18436.0	21414.6	178.302	30.23	38.83	487
370.000	0.19588	5.105	0.016481	30.505	18742.3	21805.4	179.373	30.74	39.33	493
380.000	0.19062	5.246	0.016030	31.362	19053.7	22201.3	180.428	31.27	39.84	499
390.000	0.18565	5.387	0.015604	32.218	19370.3	22602.3	181.470	31.81	40.36	505
400.000	0.18093	5.527	0.015200	33.072	19692.3	23008.6	182.498	32.36	40.90	513
420.000	0.17219	5.808	0.014453	34.775	20353.0	23837.6	184.520	33.49	42.00	521
440.000	0.16426	6.098	0.013778	36.474	21036.1	24638.8	186.500	34.64	43.13	532
460.000	0.15704	6.368	0.013164	38.169	21742.1	25562.8	188.442	35.80	44.26	542
480.000	0.15044	6.647	0.012602	39.860	22471.2	26459.5	190.350	36.95	45.40	553
500.000	0.14437	6.926	0.012088	41.548	23223.1	27379.0	192.227	38.10	46.54	562

METHANE ISOBAR AT P = 7.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
90.857	28.161	0.03551	20.7022	251.073	3473.9	3438.8	67.907	33.15	52.71	1577
95.000	27.816	0.03595	19.6406	235.315	3682.9	3708.1	71.268	33.01	53.14	1537
100.000	27.395	0.03650	18.4194	216.609	3942.2	3967.8	73.014	33.10	53.97	1484
105.000	26.965	0.03708	17.2588	198.366	4208.9	4234.9	75.669	33.18	54.85	1430
110.000	26.524	0.03770	16.1531	180.718	4481.8	4508.2	78.240	33.11	55.69	1373
115.000	26.071	0.03836	15.0966	163.747	4759.9	4786.7	80.732	32.88	56.43	1324
120.000	25.602	0.03906	14.0835	147.498	5042.2	5069.6	83.149	32.52	57.14	1271
125.000	25.115	0.03982	13.1083	131.981	5328.7	5356.6	85.497	32.13	57.93	1213
130.000	24.607	0.04064	12.1656	117.179	5619.9	5648.3	87.787	31.78	58.90	1163
135.000	24.075	0.04154	11.2501	103.049	5916.6	5945.6	90.032	31.53	60.13	1107
140.000	23.514	0.04253	10.3561	89.533	6220.3	6250.1	92.246	31.38	61.72	1043
141.685	23.317	0.04289	10.0585	85.102	6324.6	6354.6	92.589	31.35	62.34	1027
141.685	0.68836	1.453	0.064398	8.557	12398.9	13415.8	142.825	26.86	41.35	287
145.000	0.66461	1.505	0.061546	9.013	12498.0	13551.3	143.770	26.61	40.41	292
150.000	0.63266	1.581	0.057869	9.660	12644.0	13750.4	145.121	26.33	39.32	306
155.000	0.60444	1.654	0.054749	10.286	12786.8	13944.9	146.396	26.13	38.49	317
160.000	0.57922	1.726	0.052046	10.880	12927.2	14135.7	147.608	25.98	37.85	314
165.000	0.55645	1.797	0.049668	11.455	13065.6	14323.0	148.764	25.86	37.34	321
170.000	0.53574	1.867	0.047550	12.012	13202.6	14509.2	149.873	25.77	36.92	328
175.000	0.51678	1.935	0.045645	12.556	13338.4	14692.9	150.938	25.70	36.58	334
180.000	0.49932	2.003	0.043917	13.088	13473.2	14875.1	151.964	25.65	36.29	340
185.000	0.48316	2.070	0.042340	13.609	13607.2	15056.0	152.955	25.62	36.03	346
190.000	0.46816	2.136	0.040892	14.122	13740.5	15235.7	153.914	25.60	35.86	351
195.000	0.45417	2.202	0.039556	14.628	13873.4	15414.6	154.843	25.59	35.70	357
200.000	0.44108	2.267	0.038317	15.126	14005.8	15592.8	155.746	25.59	35.57	362
205.000	0.42881	2.332	0.037164	15.619	14137.9	15770.3	156.623	25.60	35.46	367
210.000	0.41726	2.397	0.036088	16.106	14269.8	15947.4	157.476	25.63	35.38	372
215.000	0.40638	2.461	0.035079	16.589	14401.6	16124.2	158.308	25.66	35.31	377
220.000	0.39610	2.525	0.034132	17.067	14533.4	16300.6	159.119	25.70	35.27	382
225.000	0.38637	2.588	0.033240	17.542	14665.1	16476.9	159.911	25.75	35.24	387
230.000	0.37713	2.652	0.032398	18.012	14797.0	16653.1	160.686	25.81	35.23	391
235.000	0.36837	2.715	0.031602	18.480	14928.9	16829.2	161.444	25.88	35.24	395
240.000	0.36002	2.778	0.030848	18.945	15061.1	17005.5	162.186	25.96	35.26	400
245.000	0.35207	2.840	0.030131	19.407	15193.6	17181.8	162.913	26.05	35.29	403
250.000	0.34449	2.903	0.029450	19.867	15326.4	17358.4	163.626	26.14	35.34	409
255.000	0.33724	2.965	0.028802	20.324	15459.6	17535.2	164.327	26.25	35.40	413
260.000	0.33031	3.027	0.028183	20.779	15593.2	17712.4	165.015	26.36	35.47	417
265.000	0.32367	3.090	0.027592	21.232	15727.3	17890.0	165.691	26.48	35.55	422
270.000	0.31731	3.152	0.027027	21.684	15861.9	18068.0	166.357	26.62	35.65	426
275.000	0.31120	3.213	0.026486	22.134	15997.1	18246.5	167.012	26.76	35.76	429
280.000	0.30534	3.275	0.025967	22.582	16133.0	18425.5	167.657	26.90	35.87	433
285.000	0.29970	3.337	0.025470	23.028	16269.5	18605.2	168.293	27.06	36.00	437
290.000	0.29427	3.398	0.024992	23.474	16406.8	18785.5	168.920	27.23	36.14	441
295.000	0.28905	3.459	0.024533	23.918	16544.6	18966.6	169.539	27.40	36.29	444
300.000	0.28401	3.521	0.024091	24.361	16683.7	19148.4	170.150	27.58	36.44	448
310.000	0.27447	3.643	0.023255	25.243	16964.0	19514.4	171.351	27.96	36.78	455
320.000	0.26556	3.765	0.022478	26.121	17248.1	19884.0	172.524	28.37	37.15	462
330.000	0.25724	3.887	0.021753	26.996	17536.2	20257.5	173.673	28.80	37.55	469
340.000	0.24943	4.009	0.021075	27.867	17828.6	20635.0	174.800	29.26	37.97	473
350.000	0.24210	4.131	0.020439	28.736	18125.6	21017.0	175.907	29.74	38.42	481
360.000	0.23519	4.252	0.019842	29.602	18427.2	21403.5	177.096	30.24	38.89	487
370.000	0.22868	4.373	0.019279	30.465	18733.8	21794.9	178.269	30.75	39.38	493
380.000	0.22252	4.494	0.018749	31.327	19045.6	22191.3	179.426	31.28	39.89	499
390.000	0.21670	4.615	0.018247	32.186	19362.5	22592.3	180.569	31.82	40.41	505
400.000	0.21118	4.735	0.017772	33.044	19684.9	22999.6	181.696	32.37	40.93	510
420.000	0.20095	4.976	0.016895	34.754	20346.0	23829.5	183.223	33.50	42.04	521
440.000	0.19168	5.217	0.016102	36.459	21029.7	24681.5	185.204	34.65	43.15	532
460.000	0.18325	5.457	0.015381	38.159	21736.2	25556.2	187.148	35.81	44.30	542
480.000	0.17553	5.637	0.014723	39.854	22465.6	26453.5	189.057	36.96	45.44	553
500.000	0.16844	5.937	0.014119	41.547	23217.9	27373.6	190.935	38.11	46.57	563

METHANE ISOBAR AT P = 8.0 BAR

T	OEN	VOL	OP/DT	OP/00	E	H	S	CV	CP	M
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	M/SEC
9J.882	28.163	0.03551	20.0990	251.206	3474.2	3512.0	67.911	33.16	52.70	1578
99.000	27.020	0.03594	19.6447	235.557	3681.9	3710.6	70.257	33.02	53.13	1537
10J.000	27.400	0.03650	18.4246	210.870	3941.1	3970.3	73.003	33.11	53.95	1484
105.000	26.970	0.03708	17.2648	198.644	4207.7	4237.3	75.657	33.19	54.85	1431
110.000	26.530	0.03769	16.1600	181.011	4480.5	4510.6	78.228	33.12	55.67	1377
115.000	26.077	0.03835	15.1045	164.053	4758.3	4789.0	80.719	32.89	56.41	1324
120.000	25.608	0.03905	14.0924	147.817	5040.5	5071.7	83.134	32.53	57.12	1272
125.000	25.122	0.03981	13.1183	132.313	5326.8	5358.6	85.481	32.14	57.90	1219
130.000	24.616	0.04062	12.1768	117.524	5617.6	5650.1	87.770	31.79	58.86	1165
135.000	24.085	0.04152	11.2626	103.409	5914.0	5947.3	90.013	31.54	59.03	1108
140.000	23.525	0.04251	10.3701	89.910	6217.4	6251.4	92.226	31.39	51.65	1049
144.379	23.005	0.04347	9.6015	78.535	6490.2	6525.0	94.150	31.33	53.35	995
144.379	0.78430	1.275	0.074277	8.399	12428.8	13448.8	142.105	27.06	+2.48	287
145.000	0.77087	1.234	0.073594	8.491	12448.0	13475.1	142.286	27.00	+2.25	288
150.000	0.73867	1.354	0.066714	9.200	12599.3	13682.3	143.692	26.03	40.74	295
155.000	0.70370	1.421	0.064573	9.864	12746.3	13833.2	145.009	26.36	39.64	304
160.000	0.67279	1.486	0.061232	10.494	12890.1	14079.2	146.254	26.17	38.80	311
165.000	0.64513	1.550	0.058245	11.099	13031.4	14271.4	147.437	26.02	38.14	313
170.000	0.62015	1.613	0.055613	11.683	13170.7	14460.8	148.567	25.91	37.61	325
175.000	0.59741	1.674	0.053266	12.250	13308.6	14647.7	149.651	25.82	37.15	332
180.000	0.57657	1.734	0.051153	12.802	13445.1	14832.6	150.693	25.76	36.82	338
185.000	0.55737	1.794	0.049236	13.342	13580.7	15016.0	151.698	25.71	36.53	344
190.000	0.53960	1.853	0.047466	13.872	13715.4	15198.0	152.659	25.68	36.24	350
195.000	0.52309	1.912	0.045677	14.392	13849.5	15378.9	153.509	25.66	36.03	355
200.000	0.50768	1.970	0.04392	14.904	13983.1	15556.9	154.320	25.65	35.91	361
205.000	0.49327	2.027	0.043015	15.409	14116.3	15738.1	155.105	25.66	35.73	366
210.000	0.47974	2.084	0.041733	15.908	14249.1	15916.7	155.856	25.68	35.67	371
215.000	0.46700	2.141	0.040536	16.401	14381.8	16094.8	156.584	25.70	35.53	376
220.000	0.45500	2.198	0.039414	16.890	14514.3	16272.5	157.281	25.74	35.52	381
225.000	0.44360	2.254	0.038300	17.373	14646.8	16450.0	158.015	25.79	35.47	386
230.000	0.43290	2.310	0.037367	17.853	14779.3	16627.3	158.698	25.85	35.45	391
235.000	0.42270	2.366	0.036430	18.328	14911.9	16804.5	160.200	25.91	35.44	395
240.000	0.41301	2.421	0.035543	18.801	15044.7	16981.7	161.007	25.99	35.44	400
245.000	0.40378	2.477	0.034703	19.270	15177.7	17158.9	161.738	26.08	35.47	404
250.000	0.39499	2.532	0.033904	19.736	15311.0	17336.4	162.455	26.17	35.50	409
255.000	0.38659	2.587	0.033145	20.200	15444.6	17514.0	163.158	26.27	35.55	413
260.000	0.37857	2.642	0.032422	20.661	15578.7	17691.9	163.849	26.39	35.62	417
265.000	0.37089	2.696	0.031732	21.120	15713.2	17870.2	164.528	26.51	35.63	421
270.000	0.36354	2.751	0.031073	21.576	15848.3	18048.9	165.196	26.64	35.78	425
275.000	0.35649	2.805	0.030442	22.031	15983.9	18228.0	165.854	26.76	35.83	429
280.000	0.34972	2.859	0.029839	22.484	16120.1	18407.7	166.501	26.93	35.93	433
285.000	0.34321	2.914	0.029260	22.935	16257.0	18587.9	167.139	27.08	36.11	437
290.000	0.33695	2.968	0.028704	23.385	16394.6	18768.8	167.765	27.25	36.24	440
295.000	0.33093	3.022	0.028171	23.833	16533.0	18950.4	168.389	27.42	36.33	444
300.000	0.32513	3.076	0.027656	24.280	16672.1	19132.7	169.002	27.60	36.54	448
310.000	0.31414	3.133	0.026889	25.170	16853.0	19319.7	170.205	27.98	36.87	455
320.000	0.30389	3.191	0.026179	26.055	17037.6	19507.1	171.391	28.38	37.23	462
330.000	0.29432	3.248	0.025490	26.936	17226.2	19694.4	172.533	28.82	37.62	468
340.000	0.28535	3.304	0.024865	27.813	17419.1	19882.7	173.662	29.28	38.04	475
350.000	0.27692	3.361	0.024331	28.687	18110.4	20075.3	174.771	29.75	38.43	481
360.000	0.26900	3.419	0.023741	29.558	18418.5	20270.2	175.862	30.25	38.96	487
370.000	0.26152	3.474	0.023192	30.426	18725.5	20467.5	176.936	30.76	39.44	493
380.000	0.25440	3.531	0.022680	31.292	19037.5	20667.5	177.995	31.29	39.95	499
390.000	0.24778	3.586	0.022192	32.155	19354.8	20870.4	179.039	31.83	40.46	505
400.000	0.24145	3.642	0.021736	33.016	19677.4	20970.7	180.070	32.38	40.93	510
420.000	0.22973	3.753	0.019346	34.733	20339.2	21821.5	182.096	33.51	42.69	521
440.000	0.21912	3.864	0.018433	36.444	21023.3	22674.3	184.086	34.66	44.20	532
460.000	0.20946	3.974	0.017604	38.149	21730.2	23549.0	186.025	35.81	44.33	543
480.000	0.20062	4.085	0.016848	39.849	22460.0	24447.7	187.936	36.97	45.47	553
500.000	0.19251	4.194	0.016156	41.545	23212.7	25368.3	189.815	38.12	46.59	563

METHANE ISOBAR AT P = 9.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/10L/K	1/SEC
90.908	28.165	0.03551	20.6957	251.339	3474.5	3506.5	67.915	33.16	52.69	1578
95.000	27.825	0.03594	19.6489	235.798	3680.8	3713.2	70.246	33.03	53.12	1537
100.000	27.404	0.03649	18.4297	217.131	3940.0	3972.8	72.991	33.12	53.94	1485
105.000	26.975	0.03707	17.2708	196.321	4206.4	4239.8	75.645	33.20	54.83	1431
110.000	26.535	0.03759	16.1670	181.303	4479.1	4513.0	78.215	33.13	55.65	1378
115.000	26.083	0.03813	15.1124	164.359	4756.8	4731.3	80.705	32.90	56.38	1325
120.000	25.615	0.03904	14.1013	148.136	5038.7	5073.9	83.120	32.54	57.09	1273
125.000	25.130	0.03979	13.1283	132.644	5324.8	5350.6	85.466	32.15	57.67	1220
130.000	24.624	0.04051	12.1879	117.858	5615.4	5622.0	87.753	31.60	58.82	1165
135.000	24.095	0.04150	11.2751	103.769	5911.5	5948.9	89.995	31.55	60.03	1103
140.000	23.536	0.04249	10.3841	90.286	6214.5	6252.8	92.205	31.40	61.59	1051
145.000	22.942	0.04359	9.5090	77.348	6526.2	6555.4	94.339	31.33	63.53	999
146.839	22.713	0.04413	9.1898	72.710	6633.3	6633.0	95.204	31.31	64.37	965
146.839	0.88112	1.135	0.084441	8.230	12452.9	13474.3	141.455	27.26	43.64	287
150.000	0.85034	1.176	0.080540	8.711	12551.9	13610.3	142.371	26.97	42.41	292
155.000	0.80739	1.239	0.075344	9.425	12703.8	13718.5	143.736	26.62	40.94	301
160.000	0.76992	1.299	0.071010	10.097	12851.4	14020.4	145.018	26.38	39.85	303
165.000	0.73673	1.357	0.067304	10.735	12995.9	14217.5	146.231	26.19	39.02	315
170.000	0.70699	1.414	0.064076	11.347	13137.9	14410.9	147.366	26.05	38.35	323
175.000	0.68009	1.470	0.061225	11.938	13277.9	14601.3	148.490	25.94	37.62	329
180.000	0.65558	1.525	0.058678	12.512	13415.4	14739.3	149.549	25.86	37.33	335
185.000	0.63309	1.580	0.056382	13.071	13553.7	14975.3	150.568	25.80	37.03	342
190.000	0.61236	1.633	0.054297	13.618	13689.9	15159.6	151.552	25.76	36.73	349
195.000	0.59315	1.686	0.052350	14.153	13825.3	15342.6	152.502	25.73	36.43	354
200.000	0.57529	1.733	0.050637	14.680	13960.1	15524.5	153.423	25.72	36.27	359
205.000	0.55861	1.790	0.049017	15.198	14094.3	15705.4	154.317	25.72	36.11	365
210.000	0.54299	1.842	0.047514	15.708	14228.1	15885.6	155.185	25.73	35.97	370
215.000	0.52833	1.893	0.046115	16.212	14361.6	16055.1	156.030	25.75	35.85	375
220.000	0.51452	1.944	0.044806	16.711	14495.0	16224.2	156.854	25.79	35.77	381
225.000	0.50149	1.994	0.043580	17.204	14628.2	16392.9	157.657	25.83	35.71	385
230.000	0.48917	2.044	0.042427	17.692	14761.5	16561.3	158.441	25.89	35.67	391
235.000	0.47745	2.094	0.041341	18.176	14894.7	16729.6	159.208	25.95	35.64	394
240.000	0.46641	2.144	0.040315	18.655	15028.1	16897.8	159.958	26.02	35.64	399
245.000	0.45586	2.194	0.039344	19.132	15161.7	17065.9	160.693	26.11	35.65	404
250.000	0.44583	2.243	0.038423	19.605	15295.5	17234.2	161.413	26.20	35.67	409
255.000	0.43625	2.292	0.037545	20.075	15429.7	17402.7	162.120	26.30	35.71	412
260.000	0.42711	2.341	0.036716	20.542	15564.2	17571.4	162.814	26.41	35.77	416
265.000	0.41837	2.390	0.035923	21.006	15698.1	17740.3	163.496	26.53	35.83	421
270.000	0.41000	2.439	0.035167	21.469	15834.6	17909.7	164.166	26.66	35.91	425
275.000	0.40198	2.486	0.034443	21.929	15970.6	18079.5	164.826	26.80	36.01	429
280.000	0.39429	2.536	0.033752	22.386	16107.2	18249.8	165.476	26.95	36.11	432
285.000	0.38690	2.585	0.033089	22.842	16244.4	18420.6	166.116	27.10	36.23	435
290.000	0.37980	2.633	0.032453	23.296	16382.4	18592.1	166.747	27.26	36.35	439
295.000	0.37296	2.681	0.031843	23.749	16521.1	18764.2	167.370	27.44	36.49	444
300.000	0.36636	2.729	0.031257	24.200	16660.5	18937.0	167.984	27.61	36.64	447
305.000	0.35993	2.825	0.030151	25.097	16942.0	19434.9	169.191	27.39	36.90	454
320.000	0.34232	2.921	0.029124	25.989	17227.1	19856.2	170.370	28.40	37.31	461
330.000	0.33149	3.017	0.028199	26.876	17516.2	20231.3	171.524	28.83	37.73	469
340.000	0.32134	3.112	0.027276	27.759	17809.5	20610.3	172.655	29.29	38.11	475
350.000	0.31181	3.207	0.026441	28.638	18107.3	20993.6	173.756	29.77	38.55	481
360.000	0.30285	3.302	0.025657	29.514	18400.7	21331.5	174.959	30.26	39.02	487
370.000	0.29441	3.397	0.024920	30.387	18717.1	21774.0	175.934	30.78	39.51	493
380.000	0.28644	3.491	0.024226	31.257	19029.5	22171.5	176.994	31.30	40.00	499
390.000	0.27890	3.586	0.023570	32.124	19347.1	22574.1	178.040	31.84	40.51	505
400.000	0.27175	3.680	0.022950	32.989	19670.0	22931.9	179.072	32.39	41.04	510
420.000	0.25853	3.868	0.021865	34.713	20332.3	23813.5	181.101	33.52	42.13	521
440.000	0.24656	4.056	0.020772	36.429	21017.0	24657.1	183.086	34.67	43.24	532
460.000	0.23567	4.243	0.019835	38.139	21724.3	25543.2	185.033	35.82	44.37	543
480.000	0.22572	4.430	0.018980	39.844	22454.6	26441.8	186.945	36.98	45.53	553
500.000	0.21658	4.617	0.018197	41.544	23207.6	27353.1	188.825	38.13	46.62	563

METHANE ISOBAR AT P = 10.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/LT BAR/K	DP/DO BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
90.933	28.167	0.03550	20.6924	251.471	3474.9	3510.4	67.919	33.17	52.63	1575
95.000	27.829	0.03593	19.6530	236.039	3679.8	3715.8	70.236	33.04	53.11	1533
100.000	27.409	0.03640	18.4348	217.391	3938.9	3975.3	72.980	33.12	53.93	1483
105.000	26.980	0.03706	17.2769	199.198	4205.2	4242.3	75.633	33.20	54.82	1432
110.000	26.541	0.03768	16.1739	181.594	4477.7	4515.4	78.202	33.14	55.63	1373
115.000	26.089	0.03833	15.1203	164.064	4755.2	4793.5	80.692	32.91	56.36	1320
120.000	25.622	0.03903	14.1102	148.454	5037.0	5076.0	83.105	32.55	57.06	1274
125.000	25.138	0.03978	13.1382	132.975	5322.9	5362.7	85.450	32.16	57.83	1221
130.000	24.633	0.04050	12.1990	118.212	5613.2	5653.8	87.736	31.81	58.73	1167
135.000	24.104	0.04119	11.2875	104.127	5909.0	5950.5	89.976	31.55	59.98	1111
140.000	23.547	0.04247	10.3981	90.662	6211.6	6254.1	92.184	31.41	61.52	1052
145.000	22.955	0.04356	9.5248	77.743	6522.8	6565.4	94.375	31.34	63.45	991
149.108	22.435	0.04457	8.8142	66.479	6853.3	6893.9	95.174	31.28	65.33	934
149.108	0.97090	1.021	0.094908	8.052	12472.4	13493.9	140.859	27.45	44.85	283
150.000	0.96863	1.032	0.093545	8.198	12501.3	13533.6	141.125	27.35	44.42	283
155.000	0.91612	1.092	0.080862	8.970	12659.0	13750.6	142.548	26.91	42.45	297
160.000	0.87102	1.145	0.081457	9.686	12811.1	13959.1	143.872	26.00	41.05	305
165.000	0.83154	1.203	0.076090	10.361	12959.1	14151.0	145.119	25.37	39.99	313
170.000	0.79648	1.256	0.072975	11.003	13104.0	14359.5	146.300	25.20	39.17	320
175.000	0.76499	1.307	0.069548	11.621	13246.4	14553.7	147.426	25.07	38.52	327
180.000	0.73645	1.358	0.066511	12.217	13387.0	14744.9	148.503	25.97	37.99	334
185.000	0.71041	1.406	0.063793	12.796	13526.1	14933.7	149.538	25.90	37.56	341
190.000	0.68649	1.457	0.061338	13.361	13663.9	15120.6	150.535	25.84	37.20	348
195.000	0.66441	1.505	0.059104	13.912	13800.7	15305.8	151.497	25.81	36.90	352
200.000	0.64394	1.553	0.057059	14.453	13936.7	15489.5	152.428	25.79	36.65	355
205.000	0.62480	1.600	0.055177	14.984	14072.0	15672.4	153.330	25.78	36.45	358
210.000	0.60707	1.647	0.053430	15.507	14206.9	15854.1	154.206	25.79	36.25	361
215.000	0.59037	1.694	0.051819	16.022	14341.3	16035.2	155.058	25.80	36.14	364
220.000	0.57409	1.740	0.050312	16.530	14475.5	16215.0	155.888	25.83	36.03	367
225.000	0.55991	1.786	0.048903	17.033	14609.5	16393.5	156.697	25.87	35.93	369
230.000	0.54595	1.832	0.047581	17.530	14743.5	16575.1	157.486	25.92	35.83	371
235.000	0.53274	1.877	0.046337	18.022	14877.4	16754.5	158.258	25.98	35.85	374
240.000	0.52022	1.922	0.045165	18.510	15011.4	16933.7	159.012	26.06	35.83	376
245.000	0.50832	1.967	0.044057	18.993	15145.5	17112.8	159.751	26.14	35.83	378
250.000	0.49701	2.012	0.043008	19.473	15279.9	17292.0	160.475	26.23	35.84	379
255.000	0.48622	2.057	0.042013	19.949	15414.6	17471.3	161.185	26.33	35.87	381
260.000	0.47593	2.101	0.041067	20.423	15549.6	17650.7	161.882	26.44	35.92	382
265.000	0.46610	2.145	0.040167	20.893	15685.0	17830.4	162.566	26.56	35.98	383
270.000	0.45670	2.190	0.039309	21.361	15820.9	18010.5	163.240	26.69	36.05	384
275.000	0.44769	2.234	0.038490	21.826	15957.3	18191.0	163.902	26.82	36.14	385
280.000	0.43906	2.278	0.037707	22.288	16094.3	18371.9	164.554	26.97	36.23	386
285.000	0.43077	2.321	0.036957	22.749	16231.9	18553.3	165.196	27.12	36.34	387
290.000	0.42280	2.365	0.036239	23.208	16370.1	18735.3	165.829	27.28	36.45	388
295.000	0.41515	2.409	0.035550	23.664	16509.2	18917.9	166.454	27.45	36.60	389
300.000	0.40777	2.452	0.034889	24.119	16648.9	19101.3	167.070	27.63	36.74	390
310.000	0.39383	2.539	0.033642	25.024	16931.0	19470.2	168.279	28.01	37.03	394
320.000	0.38165	2.626	0.032445	25.923	17215.7	19842.4	169.461	28.42	37.43	398
330.000	0.36874	2.712	0.031410	26.816	17506.2	20218.2	171.618	28.85	37.73	402
340.000	0.35740	2.798	0.030407	27.705	17800.0	20598.0	171.751	29.30	38.19	407
350.000	0.34676	2.884	0.029469	28.590	18098.2	20982.0	172.864	29.78	38.62	411
360.000	0.33676	2.969	0.028589	29.470	18401.0	21370.5	173.959	30.28	39.03	415
370.000	0.32734	3.055	0.027763	30.348	18708.7	21763.6	175.030	30.79	39.55	419
380.000	0.31845	3.140	0.026984	31.222	19021.5	22161.7	176.038	31.32	40.05	423
390.000	0.31004	3.225	0.026250	32.093	19339.4	22564.8	177.145	31.85	40.57	427
400.000	0.30208	3.311	0.025555	32.962	19662.6	22973.0	178.178	32.41	41.09	431
420.000	0.28735	3.480	0.024275	34.692	20325.5	23805.5	180.209	33.53	42.17	442
440.000	0.27402	3.649	0.023119	36.415	21010.6	24650.0	182.196	34.68	43.28	453
460.000	0.26190	3.818	0.022072	38.130	21718.5	25536.8	184.145	35.83	44.40	463
480.000	0.25082	3.987	0.021117	39.840	22449.1	26436.1	186.058	36.99	45.53	473
500.000	0.24065	4.155	0.020243	41.544	23202.5	27357.9	187.940	38.13	46.65	483

METHANE ISOBAR AT P = 12.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	OP/OT BAR/K	DP/00 BAR-L/MOL	E J/MOL	H J/MOL/K	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W M/SEC
90.985	28.171	0.03550	20.6859	251.736	3475.5	3518.1	67.928	33.19	52.67	1578
95.000	27.837	0.03592	19.6613	236.521	3677.8	3720.9	70.214	33.06	53.03	1569
100.000	27.416	0.03647	18.4449	217.911	3936.6	3980.4	72.957	33.14	53.91	1480
105.000	26.990	0.03705	17.2889	199.751	4202.7	4247.2	75.609	33.22	54.79	1433
110.000	26.552	0.03766	16.1878	182.176	4474.9	4520.1	78.177	33.16	55.60	1380
115.000	26.101	0.03831	15.1360	165.273	4752.1	4798.1	80.665	32.92	56.32	1326
120.000	25.635	0.03901	14.1279	149.088	5033.6	5080.4	83.076	32.57	57.01	1275
125.000	25.153	0.03976	13.1580	133.635	5319.0	5366.7	85.419	32.17	57.77	1223
130.000	24.650	0.04057	12.2211	118.899	5608.9	5657.5	87.702	31.82	58.70	1169
135.000	24.123	0.04145	11.3122	104.842	5904.0	5953.8	89.939	31.57	59.69	1113
140.000	23.569	0.04243	10.4258	91.410	6205.9	6256.8	92.143	31.43	61.40	1055
145.000	22.980	0.04352	9.5562	78.530	6516.1	6568.4	94.329	31.35	63.28	994
150.000	22.349	0.04475	8.6961	66.123	6836.7	6890.4	96.512	31.27	65.62	930
153.198	21.916	0.04563	8.1468	58.393	7048.4	7103.1	97.915	31.18	67.43	887
153.198	1.17836	0.649	0.116826	7.678	12499.9	13518.3	139.790	27.34	47.45	280
155.000	1.15192	0.668	0.113207	7.997	12561.0	13632.7	140.338	27.61	46.33	289
160.000	1.08719	0.920	0.104745	8.822	12724.3	13828.1	141.769	27.13	43.95	249
165.000	1.03215	0.959	0.097934	9.582	12880.9	14043.5	143.095	26.79	42.23	307
170.000	0.98433	1.015	0.092256	10.293	13032.6	14251.7	144.338	26.54	41.05	315
175.000	0.94209	1.061	0.087408	10.968	13180.7	14454.4	145.514	26.35	40.09	322
180.000	0.90432	1.106	0.083192	11.613	13326.0	14652.9	146.632	26.21	39.33	330
185.000	0.87022	1.149	0.079475	12.235	13469.0	14848.0	147.701	26.10	38.71	335
190.000	0.83919	1.192	0.076159	12.837	13610.3	15040.2	148.726	26.02	38.21	345
195.000	0.81076	1.233	0.073174	13.422	13750.1	15230.2	149.713	25.96	37.80	349
200.000	0.78456	1.275	0.070466	13.993	13888.8	15418.4	150.660	25.93	37.46	355
205.000	0.76031	1.315	0.067392	14.551	14026.6	15604.9	151.587	25.90	37.17	361
210.000	0.73776	1.355	0.065720	15.099	14163.6	15790.1	152.480	25.90	36.93	360
215.000	0.71673	1.395	0.063623	15.637	14300.0	15974.3	153.347	25.91	36.74	372
220.000	0.69703	1.435	0.061678	16.167	14436.0	16157.6	154.189	25.93	36.58	377
225.000	0.67853	1.474	0.059869	16.688	14571.0	16340.2	155.010	25.96	36.45	382
230.000	0.66112	1.513	0.058178	17.204	14707.1	16522.2	155.810	26.00	36.36	387
235.000	0.64468	1.551	0.056594	17.713	14842.4	16703.8	156.591	26.06	36.23	392
240.000	0.62914	1.589	0.055106	18.216	14977.7	16885.0	157.355	26.12	36.23	397
245.000	0.61441	1.628	0.053704	18.714	15113.0	17066.1	158.101	26.20	36.20	401
250.000	0.60042	1.666	0.052361	19.208	15248.5	17247.1	158.833	26.29	36.19	405
255.000	0.58712	1.703	0.051129	19.697	15384.2	17428.1	159.549	26.38	36.20	410
260.000	0.57444	1.741	0.049942	20.183	15520.2	17609.1	160.253	26.49	36.23	415
265.000	0.56236	1.778	0.048815	20.665	15656.5	17790.4	160.943	26.61	36.27	419
270.000	0.55081	1.816	0.047742	21.143	15793.2	17971.8	161.621	26.73	36.33	425
275.000	0.53976	1.853	0.046720	21.619	15930.4	18153.5	162.289	26.87	36.40	427
280.000	0.52919	1.890	0.045745	22.092	16068.2	18335.8	162.945	27.01	36.48	431
285.000	0.51905	1.927	0.044814	22.562	16206.5	18518.5	163.592	27.16	36.58	435
290.000	0.50932	1.963	0.043923	23.029	16345.5	18701.0	164.229	27.32	36.69	439
295.000	0.49997	2.000	0.043069	23.494	16485.2	18883.4	164.857	27.49	36.81	443
300.000	0.49098	2.037	0.042250	23.957	16625.6	19069.8	165.477	27.67	36.94	447
310.000	0.47399	2.110	0.040710	24.877	16908.9	19440.6	166.693	28.04	37.23	454
320.000	0.45820	2.182	0.039284	25.790	17195.6	19814.6	167.880	28.45	37.57	461
330.000	0.44348	2.255	0.037962	26.696	17480.2	20192.0	169.042	28.88	37.93	468
340.000	0.42973	2.327	0.036730	27.597	17760.9	20573.3	170.180	29.33	38.33	474
350.000	0.41684	2.399	0.035580	28.492	18079.9	20958.7	171.297	29.81	38.76	481
360.000	0.40473	2.471	0.034563	29.383	18383.6	21348.5	172.395	30.30	39.20	487
370.000	0.39333	2.542	0.033492	30.270	18692.0	21742.9	173.476	30.81	39.67	493
380.000	0.38258	2.614	0.032541	31.153	19005.5	22142.1	174.540	31.34	40.16	499
390.000	0.37242	2.685	0.031645	32.032	19324.0	22546.2	175.590	31.88	40.67	505
400.000	0.36280	2.756	0.030799	32.908	19647.9	22955.5	176.626	32.43	41.19	510
420.000	0.34503	2.838	0.029240	34.652	20311.9	23789.8	178.661	33.55	42.26	522
440.000	0.32896	3.040	0.027837	36.387	20998.0	24645.3	180.652	34.70	43.35	532
460.000	0.31436	3.181	0.026565	38.112	21706.8	25524.1	182.604	35.85	44.47	543
480.000	0.30102	3.322	0.025407	39.831	22438.3	26424.7	184.520	37.00	45.59	553
500.000	0.28880	3.463	0.024349	41.544	23192.4	27347.6	186.404	38.15	46.71	563

METHANE ISOBAR AT P = 14.6 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
91.036	28.175	0.03549	20.0793	252.001	3476.1	3525.8	67.936	33.20	52.66	1578
95.000	27.840	0.03591	19.6695	237.101	3675.8	3726.1	70.193	33.07	53.07	1540
100.000	27.427	0.03646	18.4550	218.429	3934.4	3985.4	72.935	33.16	53.89	1487
105.000	27.000	0.03704	17.3008	200.302	4200.2	4252.1	75.585	33.24	54.76	1434
110.000	26.563	0.03765	16.2015	182.757	4472.2	4524.9	78.152	33.18	55.57	1381
115.000	26.113	0.03829	15.1516	165.881	4749.1	4802.7	80.538	32.94	56.23	1329
120.000	25.649	0.03893	14.1454	149.721	5030.1	5084.7	83.048	32.59	56.90	1277
125.000	25.167	0.03973	13.1776	134.293	5315.2	5370.8	85.388	32.19	57.71	1225
130.000	24.666	0.04054	12.2451	119.563	5604.5	5661.3	87.668	31.84	58.62	1171
135.000	24.142	0.04142	11.3367	105.555	5899.1	5957.1	89.902	31.59	59.73	1119
140.000	23.591	0.04239	10.4533	92.155	6200.2	6259.6	92.102	31.44	61.27	1063
145.000	23.006	0.04347	9.5872	79.313	6509.6	6570.4	94.283	31.37	63.12	997
150.000	22.379	0.04459	8.7316	66.953	6829.0	6891.5	96.460	31.29	65.40	934
155.000	21.696	0.04609	7.8774	54.986	7160.9	7225.4	98.649	31.11	68.27	867
156.824	21.430	0.04655	7.5638	53.599	7285.7	7351.1	99.455	31.01	69.54	842
156.824	1.38353	0.723	0.140174	7.288	12515.1	13527.0	138.837	28.23	50.32	285
160.000	1.32058	0.734	0.132146	7.891	12627.5	13682.8	139.820	27.78	47.91	291
165.000	1.25032	0.800	0.121993	8.757	12795.5	13915.2	141.251	27.28	45.21	301
170.000	1.18594	0.843	0.113670	9.550	12955.8	14130.3	142.571	26.92	43.33	310
175.000	1.13027	0.885	0.107131	10.291	13110.7	14349.4	143.806	26.67	41.94	318
180.000	1.08129	0.929	0.101399	10.991	13261.6	14556.3	144.972	26.47	40.87	325
185.000	1.03764	0.954	0.096431	11.660	13409.3	14758.5	146.080	26.32	40.03	332
190.000	0.99831	1.002	0.092061	12.303	13554.5	14956.9	147.138	26.21	39.39	339
195.000	0.96260	1.039	0.088172	12.923	13697.8	15152.2	148.153	26.13	38.73	346
200.000	0.92992	1.075	0.084678	13.526	13833.4	15344.3	149.129	26.07	38.33	352
205.000	0.89986	1.111	0.081514	14.113	13979.8	15535.6	150.071	26.03	37.95	358
210.000	0.87206	1.147	0.078628	14.687	14119.2	15724.6	150.981	26.02	37.64	364
215.000	0.84624	1.182	0.075981	15.248	14257.7	15912.1	151.864	26.01	37.38	370
220.000	0.82216	1.215	0.073541	15.800	14395.6	16098.4	152.721	26.02	37.10	375
225.000	0.79964	1.251	0.071280	16.341	14533.0	16283.8	153.554	26.05	36.99	380
230.000	0.77849	1.285	0.069178	16.875	14670.0	16468.4	154.355	26.08	36.85	385
235.000	0.75860	1.318	0.067217	17.401	14806.8	16652.3	155.156	26.13	36.73	390
240.000	0.73983	1.352	0.065380	17.921	14943.4	16835.8	155.929	26.19	36.65	395
245.000	0.72208	1.385	0.063656	18.434	15080.0	17018.9	156.684	26.26	36.59	400
250.000	0.70527	1.418	0.062033	18.942	15215.7	17201.7	157.423	26.35	36.56	405
255.000	0.68931	1.451	0.060561	19.444	15353.5	17384.5	158.147	26.44	36.54	410
260.000	0.67413	1.483	0.059053	19.942	15490.5	17567.2	158.856	26.54	36.55	414
265.000	0.65948	1.516	0.057681	20.436	15627.7	17750.0	159.553	26.66	36.57	418
270.000	0.64589	1.548	0.056378	20.926	15765.4	17932.9	160.236	26.78	36.61	422
275.000	0.63272	1.580	0.055139	21.412	15903.4	18116.1	160.909	26.91	36.67	425
280.000	0.62013	1.613	0.053959	21.894	16042.0	18299.6	161.570	27.05	36.74	430
285.000	0.60806	1.645	0.052833	22.374	16181.1	18483.5	162.221	27.20	36.82	434
290.000	0.59650	1.676	0.051758	22.850	16320.8	18667.8	162.862	27.36	36.92	438
295.000	0.58540	1.708	0.050729	23.324	16461.1	18852.7	163.494	27.53	37.03	442
300.000	0.57474	1.740	0.049745	23.795	16602.2	19038.1	164.117	27.70	37.15	446
305.000	0.56462	1.803	0.047894	24.271	16743.6	19223.9	164.734	27.88	37.28	450
310.000	0.55495	1.866	0.046187	24.751	16886.7	19410.9	165.340	28.08	37.42	454
315.000	0.54574	1.928	0.044615	25.234	17031.5	19598.7	165.933	28.28	37.57	458
320.000	0.53697	1.991	0.043135	25.720	17177.1	19786.7	166.513	28.49	37.72	462
325.000	0.52863	2.053	0.041764	26.209	17324.3	19975.8	167.080	28.71	37.88	466
330.000	0.52071	2.115	0.040483	26.699	17472.5	20165.8	167.633	28.94	38.04	470
335.000	0.51320	2.176	0.039281	27.191	17621.7	20356.8	168.173	29.18	38.21	474
340.000	0.50609	2.238	0.038153	27.684	17771.9	20548.6	168.699	29.43	38.38	478
345.000	0.49938	2.299	0.037090	28.179	17923.2	20741.2	169.211	29.69	38.56	482
350.000	0.49306	2.361	0.036088	28.675	18075.3	20935.5	169.709	29.96	38.74	486
355.000	0.48712	2.423	0.035143	29.172	18228.2	21130.6	170.193	30.24	38.93	490
360.000	0.48155	2.485	0.034243	29.670	18381.9	21326.6	170.663	30.53	39.13	494
365.000	0.47635	2.547	0.033385	30.169	18536.4	21523.3	171.119	30.83	39.34	498
370.000	0.47150	2.609	0.032565	30.669	18691.5	21720.6	171.561	31.14	39.56	502
375.000	0.46700	2.672	0.031784	31.170	18847.2	21918.4	171.989	31.46	39.79	506
380.000	0.46283	2.735	0.031043	31.672	19003.5	22116.7	172.403	31.79	40.03	510
385.000	0.45898	2.798	0.030341	32.175	19160.3	22315.5	172.803	32.13	40.28	514
390.000	0.45544	2.861	0.029677	32.679	19317.6	22514.8	173.189	32.48	40.54	518
395.000	0.45220	2.924	0.029051	33.184	19475.4	22714.5	173.561	32.84	40.81	522
400.000	0.44926	2.987	0.028462	33.689	19633.7	22914.7	173.919	33.21	41.09	526
405.000	0.44661	3.050	0.027909	34.194	19792.5	23115.3	174.263	33.59	41.38	530
410.000	0.44425	3.113	0.027391	34.700	19951.7	23316.4	174.593	33.98	41.68	534
415.000	0.44208	3.176	0.026907	35.206	20111.4	23517.9	174.909	34.38	41.99	538
420.000	0.44009	3.239	0.026457	35.712	20271.6	23719.8	175.211	34.79	42.31	542
425.000	0.43827	3.302	0.026040	36.218	20432.3	23922.1	175.500	35.21	42.64	546
430.000	0.43662	3.365	0.025656	36.724	20593.5	24124.8	175.775	35.64	42.98	550
435.000	0.43514	3.428	0.025303	37.230	20755.2	24327.9	176.037	36.08	43.33	554
440.000	0.43382	3.491	0.024980	37.736	20917.4	24531.4	176.285	36.53	43.69	558
445.000	0.43265	3.554	0.024687	38.242	21080.1	24735.3	176.519	36.99	44.06	562
450.000	0.43162	3.617	0.024423	38.748	21243.3	24939.6	176.739	37.46	44.44	566
455.000	0.43073	3.680	0.024187	39.254	21407.0	25144.3	176.945	37.94	44.83	570
460.000	0.43000	3.743	0.023979	39.760	21571.2	25349.4	177.137	38.43	45.23	574
465.000	0.42941	3.806	0.023798	40.266	21735.9	25554.9	177.315	38.93	45.64	578
470.000	0.42896	3.869	0.023643	40.772	21901.1	25760.8	177.479	39.44	46.06	582
475.000	0.42864	3.932	0.023513	41.278	22066.8	25967.1	177.629	39.96	46.49	586
480.000	0.42844	3.995	0.023407	41.784	22233.0	26173.8	177.765	40.49	46.93	590
485.000	0.42835	4.058	0.023323	42.290	22400.6	26380.9	177.887	41.03	47.38	594
490.000	0.42837	4.121	0.023260	42.796	22568.7	26588.4	177.995	41.58	47.84	598
495.000	0.42849	4.184	0.023217	43.302	22737.2	26796.3	178.089	42.14	48.31	602
500.000	0.42871	4.247	0.023193	43.808	22906.2	26999.9	178.169	42.71	48.79	606

METHANE ISOBAR AT P = 16.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
91.087	28.179	0.03543	20.6728	252.265	3476.7	3533.5	67.945	33.21	52.65	1573
95.000	27.854	0.03590	19.6776	237.480	3673.8	3731.2	70.171	33.09	53.05	1541
100.000	27.436	0.03645	18.4651	218.946	3932.2	3990.5	72.912	33.18	53.80	1489
105.000	27.010	0.03702	17.3127	200.852	4197.8	4257.0	75.562	33.26	54.73	1435
110.000	26.574	0.03763	16.2152	183.336	4469.4	4529.6	78.127	33.19	55.53	1383
115.000	26.125	0.03828	15.1671	166.487	4746.0	4807.3	80.611	32.96	56.24	1331
120.000	25.662	0.03897	14.1629	150.353	5026.7	5089.1	83.019	32.60	56.91	1279
125.000	25.182	0.03971	13.1972	134.949	5311.3	5374.9	85.357	32.21	57.65	1227
130.000	24.683	0.04051	12.2649	120.265	5600.2	5665.0	87.635	31.86	58.55	1174
135.000	24.161	0.04139	11.3610	106.264	5894.2	5960.4	89.865	31.61	59.71	1119
140.000	23.612	0.04235	10.4805	92.896	6194.6	6252.4	92.061	31.46	61.15	1061
145.000	23.031	0.04342	9.6179	80.091	6503.0	6572.5	94.238	31.39	62.96	1001
150.000	22.408	0.04463	8.7566	67.770	6821.3	6892.7	96.408	31.30	65.13	933
155.000	21.732	0.04601	7.9180	55.867	7151.6	7225.3	98.589	31.12	67.95	872
160.000	20.982	0.04750	7.0595	44.267	7497.6	7573.9	100.802	30.78	71.74	802
160.095	20.967	0.04769	7.0431	44.350	7504.3	7580.6	100.844	30.77	71.76	803
160.095	1.59544	0.627	0.165104	6.887	12520.5	13523.4	137.964	28.62	53.52	263
165.000	1.49088	0.671	0.150025	7.870	12703.9	13774.1	139.507	27.88	49.09	294
170.000	1.40433	0.712	0.138385	8.770	12872.5	14011.9	140.927	27.37	46.20	304
175.000	1.33152	0.751	0.129064	9.588	13035.9	14237.5	142.236	27.02	44.17	313
180.000	1.26874	0.788	0.121381	10.351	13193.4	14454.5	143.458	26.76	42.69	321
185.000	1.21363	0.824	0.114837	11.072	13346.5	14664.9	144.611	26.57	41.53	329
190.000	1.16458	0.859	0.109172	11.758	13496.3	14870.2	145.706	26.42	40.62	336
195.000	1.12046	0.892	0.104195	12.417	13643.4	15071.4	146.751	26.31	39.89	343
200.000	1.08042	0.926	0.099771	13.054	13788.4	15269.3	147.754	26.23	39.29	349
205.000	1.04384	0.958	0.095799	13.671	13931.7	15464.5	148.718	26.17	38.69	355
210.000	1.01020	0.990	0.092205	14.271	14073.6	15657.5	149.648	26.14	38.40	361
215.000	0.97911	1.021	0.088930	14.857	14214.4	15848.6	150.547	26.12	38.16	367
220.000	0.95025	1.052	0.085928	15.431	14354.4	16038.1	151.419	26.12	37.73	373
225.000	0.92335	1.083	0.083161	15.993	14493.6	16226.4	152.265	26.14	37.55	379
230.000	0.89818	1.113	0.080600	16.546	14632.3	16413.7	153.088	26.17	37.36	384
235.000	0.87458	1.143	0.078220	17.089	14770.6	16600.1	153.890	26.21	37.21	389
240.000	0.85236	1.173	0.076000	17.625	14908.7	16785.8	154.672	26.26	37.03	394
245.000	0.83141	1.203	0.073923	18.153	15046.6	16971.0	155.436	26.33	37.00	399
250.000	0.81161	1.232	0.071973	18.675	15184.5	17155.9	156.183	26.41	36.94	404
255.000	0.79284	1.261	0.070138	19.191	15322.4	17340.4	156.914	26.50	36.90	409
260.000	0.77503	1.290	0.068407	19.702	15460.4	17524.3	157.630	26.60	36.88	413
265.000	0.75816	1.319	0.066771	20.207	15598.7	17709.3	158.332	26.71	36.88	417
270.000	0.74197	1.348	0.065220	20.708	15737.3	17893.7	159.022	26.83	36.90	421
275.000	0.72658	1.376	0.063749	21.205	15876.2	18078.3	159.699	26.96	36.94	425
280.000	0.71189	1.405	0.062350	21.697	16015.6	18253.1	160.365	27.10	37.00	430
285.000	0.69783	1.433	0.061018	22.185	16155.5	18448.3	161.021	27.24	37.07	434
290.000	0.68437	1.461	0.059748	22.672	16295.9	18633.8	161.666	27.40	37.15	439
295.000	0.67146	1.489	0.058534	23.154	16436.9	18819.8	162.302	27.57	37.25	442
300.000	0.65908	1.517	0.057374	23.634	16578.7	19006.3	162.929	27.74	37.36	446
310.000	0.63573	1.573	0.055198	24.584	16864.4	19381.1	164.158	28.11	37.62	453
320.000	0.61416	1.628	0.053194	25.525	17153.3	19758.8	165.357	28.51	37.92	460
330.000	0.59399	1.684	0.051342	26.457	17445.9	20139.6	166.529	28.94	38.25	467
340.000	0.57524	1.738	0.049623	27.381	17742.5	20523.9	167.676	29.39	38.63	474
350.000	0.55770	1.793	0.048023	28.299	18043.3	20912.2	168.802	29.86	39.03	481
360.000	0.54126	1.848	0.046529	29.210	18348.5	21304.6	169.907	30.35	39.46	487
370.000	0.52581	1.902	0.045131	30.115	18658.5	21711.4	170.994	30.86	39.91	493
380.000	0.51126	1.956	0.043818	31.015	18973.4	22132.9	172.065	31.38	40.33	499
390.000	0.49753	2.010	0.042584	31.911	19293.3	22569.2	173.120	31.92	40.83	505
400.000	0.48455	2.064	0.041421	32.802	19618.4	22920.5	174.161	32.47	41.33	511
420.000	0.46066	2.171	0.039283	34.573	20284.7	23758.5	176.205	33.59	42.43	522
440.000	0.43898	2.278	0.037364	36.332	20972.9	24617.8	178.204	34.73	43.51	533
460.000	0.41936	2.385	0.035630	38.079	21683.5	25498.9	180.162	35.89	44.61	543
480.000	0.40147	2.491	0.034055	39.816	22416.7	26402.1	182.084	37.04	45.71	553
500.000	0.38508	2.597	0.032618	41.545	23172.4	27327.4	183.973	38.18	46.82	563

METHANE ISOBAR AT P = 18.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
91.138	28.182	0.03548	20.6663	252.528	3477.3	3541.2	67.953	33.23	52.64	1579
95.000	27.803	0.03589	19.6857	237.957	3671.8	3736.4	70.150	33.11	53.04	1541
100.000	27.446	0.03644	18.4750	219.461	3929.9	3935.5	72.890	33.19	53.84	1490
105.000	27.020	0.03701	17.3245	201.401	4195.3	4261.9	75.538	33.27	54.71	1437
110.000	26.585	0.03762	16.2288	183.914	4466.7	4534.4	78.102	33.21	55.50	1384
115.000	26.137	0.03826	15.1826	167.091	4743.0	4811.9	80.585	32.98	56.23	1332
120.000	25.675	0.03895	14.1803	150.982	5023.3	5093.4	82.990	32.62	56.86	1281
125.000	25.197	0.03963	13.2166	135.603	5307.5	5379.0	85.326	32.23	57.53	1229
130.000	24.700	0.04049	12.2866	120.944	5595.9	5668.8	87.601	31.88	58.47	1176
135.000	24.180	0.04136	11.3852	106.971	5889.3	5953.7	89.828	31.62	59.60	1121
140.000	23.634	0.04231	10.5076	93.633	6189.0	6255.2	92.021	31.48	61.03	1064
145.000	23.056	0.04337	9.6483	80.865	6496.6	6574.6	94.193	31.40	62.60	1004
150.000	22.438	0.04457	8.8611	68.595	6813.7	6893.9	96.357	31.32	64.96	942
155.000	21.768	0.04594	7.9580	56.740	7142.5	7225.2	98.529	31.13	67.65	877
160.000	21.027	0.04756	7.1071	45.213	7486.3	7571.9	100.730	30.79	71.22	807
165.084	20.521	0.04873	6.5763	38.220	7768.3	7736.0	102.117	30.49	74.24	762
163.084	1.81500	0.551	0.191786	6.479	12517.3	13519.0	137.149	29.03	57.13	282
165.000	1.76139	0.568	0.183584	6.917	12594.0	13616.0	137.801	28.64	54.55	237
170.000	1.64372	0.608	0.166627	7.944	12781.1	13876.2	139.354	27.91	49.90	238
175.000	1.54844	0.646	0.153760	8.856	12955.3	14117.7	140.755	27.43	46.91	307
180.000	1.46836	0.681	0.143455	9.691	13120.9	14340.7	142.046	27.06	44.81	316
185.000	1.39935	0.715	0.134909	10.469	13280.4	14560.7	143.251	26.83	43.25	324
190.000	1.33680	0.747	0.127644	11.204	13435.4	14779.9	144.338	26.64	42.05	332
195.000	1.28493	0.778	0.121353	11.905	13586.9	14987.7	145.408	26.50	41.11	339
200.000	1.23650	0.809	0.115825	12.577	13735.6	15193.3	146.499	26.39	40.34	345
205.000	1.19257	0.839	0.110910	13.225	13882.1	15391.4	147.487	26.32	39.72	353
210.000	1.15243	0.868	0.106499	13.854	14026.8	15588.7	148.438	26.26	39.21	359
215.000	1.11553	0.896	0.102507	14.465	14170.1	15783.7	149.355	26.23	38.73	365
220.000	1.08144	0.925	0.098870	15.061	14312.2	15976.7	150.243	26.22	38.43	371
225.000	1.04978	0.953	0.095537	15.645	14453.5	16168.1	151.103	26.23	38.14	377
230.000	1.02028	0.980	0.092465	16.216	14594.0	16358.2	151.939	26.25	37.90	382
235.000	0.99269	1.007	0.089622	16.778	14733.9	16547.2	152.752	26.29	37.70	387
240.000	0.96680	1.034	0.086980	17.330	14873.5	16735.3	153.544	26.34	37.54	392
245.000	0.94244	1.061	0.084516	17.873	15012.7	16922.7	154.316	26.40	37.42	397
250.000	0.91947	1.088	0.082211	18.410	15151.9	17109.5	155.072	26.47	37.33	402
255.000	0.89775	1.114	0.080047	18.939	15291.0	17296.0	155.810	26.56	37.26	407
260.000	0.87717	1.140	0.078011	19.462	15430.1	17482.2	156.533	26.65	37.22	412
265.000	0.85763	1.166	0.076091	19.979	15569.4	17668.2	157.242	26.76	37.20	415
270.000	0.83906	1.192	0.074276	20.491	15708.9	17854.2	157.937	26.86	37.20	420
275.000	0.82136	1.217	0.072556	20.999	15848.8	18040.2	158.620	27.00	37.22	425
280.000	0.80448	1.243	0.070924	21.501	15989.0	18226.4	159.291	27.14	37.26	429
285.000	0.78836	1.268	0.069373	22.000	16129.6	18412.9	159.951	27.29	37.32	433
290.000	0.77293	1.294	0.067895	22.494	16270.8	18599.5	160.600	27.44	37.39	437
295.000	0.75816	1.319	0.066486	22.985	16412.6	18786.8	161.240	27.60	37.47	441
300.000	0.74399	1.344	0.065141	23.473	16555.0	18974.4	161.871	27.78	37.57	445
310.000	0.71733	1.394	0.062622	24.439	16841.9	19351.3	163.107	28.14	37.81	452
320.000	0.69266	1.444	0.060308	25.393	17132.1	19730.7	164.311	28.54	38.03	460
330.000	0.66976	1.493	0.058173	26.338	17425.7	20113.3	165.489	28.96	38.42	467
340.000	0.64843	1.542	0.056195	27.274	17723.2	20499.2	166.641	29.41	38.73	473
350.000	0.62856	1.591	0.054356	28.202	18024.9	20886.9	167.770	29.89	39.17	480
360.000	0.60984	1.640	0.052643	29.123	18331.0	21282.6	168.879	30.38	39.59	486
370.000	0.59231	1.688	0.051041	30.038	18641.8	21680.7	169.970	30.88	40.03	493
380.000	0.57582	1.737	0.049539	30.947	18957.3	22083.3	171.044	31.41	40.50	499
390.000	0.56027	1.785	0.048128	31.851	19277.9	22490.7	172.102	31.94	40.99	505
400.000	0.54557	1.833	0.046799	32.750	19603.7	22902.9	173.146	32.49	41.48	510
420.000	0.51846	1.929	0.044361	34.534	20271.1	23742.8	175.194	33.61	42.51	522
440.000	0.49405	2.024	0.042175	36.305	20960.4	24603.8	177.197	34.75	43.53	533
460.000	0.47189	2.119	0.040262	38.062	21671.9	25446.3	179.158	35.90	44.68	543
480.000	0.45170	2.214	0.038413	39.809	22405.9	26390.8	181.083	37.06	45.78	554
500.000	0.43322	2.306	0.036781	41.546	23162.4	27317.3	182.974	38.20	46.87	564

METHANE ISOBAR AT P = 20.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	OP/DO BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
91.189	28.186	0.03548	20.6598	252.791	3478.0	3548.9	67.961	33.24	52.62	1573
95.000	27.871	0.03588	19.6938	238.433	3669.8	3741.5	70.129	33.13	53.62	1542
100.000	27.455	0.03642	18.4850	219.975	3927.7	4000.6	72.868	33.21	53.82	1491
105.000	27.030	0.03700	17.3362	201.948	4192.9	4266.9	75.515	33.29	54.63	1435
110.000	26.596	0.03760	16.2424	184.491	4464.0	4539.2	78.077	33.23	55.47	1385
115.000	26.149	0.03824	15.1980	167.694	4740.0	4816.4	80.558	32.99	56.16	1334
120.000	25.689	0.03893	14.1976	151.610	5020.0	5097.8	82.962	32.64	56.82	1283
125.000	25.212	0.03966	13.2359	136.256	5303.7	5383.1	85.295	32.25	57.53	1231
130.000	24.716	0.04046	12.3081	121.621	5591.6	5672.5	87.568	31.90	58.40	1178
135.000	24.199	0.04132	11.4092	107.675	5884.5	5967.1	89.792	31.64	59.51	1124
140.000	23.655	0.04227	10.5344	94.368	6183.5	6268.0	91.981	31.50	60.92	1067
145.000	23.080	0.04333	9.6784	81.635	6490.2	6576.8	94.148	31.42	62.65	1007
150.000	22.467	0.04451	8.8353	69.407	6806.2	6893.2	96.306	31.33	64.75	944
155.000	21.803	0.04587	7.9974	57.606	7133.5	7225.3	98.470	31.15	67.35	881
160.000	21.071	0.04746	7.1537	46.149	7475.2	7570.1	100.659	30.79	70.76	815
165.000	20.238	0.04941	6.2861	34.935	7836.3	7935.7	102.909	30.30	75.65	753
165.843	20.084	0.04979	6.1353	33.058	7900.5	8000.1	103.298	30.21	77.02	725
165.843	2.043	0.49936	0.2204	6.064	12506.7	13485.5	136.374	29.45	61.27	280
170.000	1.911	0.52342	0.1999	7.055	12678.9	13725.8	137.806	28.57	54.95	291
175.000	1.785	0.55035	0.1818	8.086	12867.5	13948.2	139.327	27.90	50.37	302
180.000	1.682	0.59441	0.1680	9.067	13043.3	14232.1	140.702	27.44	47.33	311
185.000	1.596	0.62648	0.1569	9.851	13210.5	14463.5	141.970	27.12	45.27	325
190.000	1.522	0.65706	0.1477	10.640	13371.6	14645.7	143.155	26.88	43.69	329
195.000	1.457	0.68648	0.1398	11.385	13528.0	14901.0	144.273	26.70	42.47	336
200.000	1.399	0.71498	0.1329	12.095	13680.9	15110.8	145.336	26.56	41.50	343
205.000	1.346	0.74271	0.1269	12.777	13830.9	15316.3	146.351	26.47	40.72	350
210.000	1.299	0.76981	0.1216	13.435	13978.7	15518.3	147.324	26.40	40.09	357
215.000	1.256	0.79636	0.1168	14.072	14124.6	15717.4	148.261	26.35	39.56	363
220.000	1.216	0.82245	0.1124	14.692	14269.2	15914.0	149.166	26.33	39.13	369
225.000	1.179	0.84813	0.1084	15.297	14412.5	16108.7	150.041	26.32	38.70	375
230.000	1.145	0.87345	0.1048	15.888	14554.9	16301.8	150.889	26.34	38.47	380
235.000	1.113	0.89846	0.1014	16.467	14696.6	16493.5	151.714	26.37	38.22	386
240.000	1.083	0.92319	0.0983	17.036	14837.7	16684.1	152.516	26.41	38.02	391
245.000	1.055	0.94767	0.0954	17.595	14978.4	16873.7	153.299	26.46	37.86	396
250.000	1.029	0.97192	0.0928	18.145	15118.9	17062.7	154.062	26.53	37.73	401
255.000	1.004	0.99596	0.0902	18.686	15259.2	17251.1	154.808	26.61	37.63	406
260.000	0.981	1.01982	0.0879	19.224	15399.5	17439.1	155.538	26.71	37.57	411
265.000	0.958	1.04350	0.0856	19.753	15539.8	17626.8	156.253	26.81	37.53	415
270.000	0.937	1.06704	0.0835	20.276	15680.3	17814.4	156.955	26.92	37.51	420
275.000	0.917	1.09042	0.0816	20.794	15821.1	18001.9	157.643	27.05	37.51	424
280.000	0.898	1.11368	0.0797	21.306	15962.2	18189.5	158.319	27.18	37.53	429
285.000	0.880	1.13681	0.0779	21.814	16103.7	18377.3	158.984	27.33	37.57	432
290.000	0.862	1.15983	0.0762	22.318	16245.6	18565.3	159.638	27.48	37.63	435
295.000	0.845	1.18274	0.0746	22.817	16388.1	18753.6	160.281	27.64	37.70	440
300.000	0.829	1.20556	0.0730	23.313	16531.2	18942.3	160.916	27.81	37.79	444
310.000	0.799	1.25092	0.0702	24.294	16813.4	19321.3	162.156	28.18	38.01	452
320.000	0.772	1.29597	0.0675	25.263	17110.7	19702.7	163.369	28.57	38.27	459
330.000	0.746	1.34073	0.0651	26.220	17405.4	20086.9	164.551	28.99	38.58	465
340.000	0.722	1.38523	0.0629	27.168	17703.9	20474.4	165.708	29.44	38.93	473
350.000	0.700	1.42952	0.0608	28.107	18006.5	20865.6	166.842	29.91	39.31	480
360.000	0.679	1.47353	0.0588	29.038	18313.5	21260.7	167.955	30.40	39.72	489
370.000	0.659	1.51750	0.0570	29.962	18625.0	21660.0	169.049	30.91	40.15	495
380.000	0.641	1.56124	0.0553	30.879	18941.3	22063.7	170.126	31.43	40.61	499
390.000	0.623	1.60483	0.0537	31.791	19262.5	22472.2	171.187	31.97	41.09	505
400.000	0.607	1.64829	0.0522	32.697	19588.9	22885.5	172.233	32.51	41.59	511
420.000	0.576	1.73484	0.0495	34.496	20257.5	23727.2	174.286	33.63	42.60	522
440.000	0.549	1.82097	0.0470	36.278	20947.8	24589.7	176.293	34.77	43.65	533
460.000	0.524	1.90676	0.0448	38.046	21660.3	25473.8	178.257	35.92	44.74	544
480.000	0.502	1.99224	0.0428	39.802	22395.1	26379.6	180.185	37.07	45.84	554
500.000	0.481	2.07746	0.0410	41.547	23152.4	27307.3	182.078	38.22	46.93	564

METHANE ISOBAR AT P = 22.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CF	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/10 ⁻¹ /K	1/SEC
91.240	28.190	0.03547	20.6534	253.053	3478.6	3556.6	67.970	33.26	52.61	1580
95.000	27.879	0.03537	19.7018	238.908	3667.8	3746.7	71.107	33.14	53.00	1543
100.000	27.464	0.03641	18.4949	220.488	3925.5	4035.6	72.846	33.23	53.80	1492
105.000	27.040	0.03698	17.3479	202.493	4190.4	4271.8	73.491	33.31	54.65	1433
110.000	26.606	0.03758	16.2559	185.066	4461.3	4544.0	73.052	33.25	55.43	1387
115.000	26.161	0.03822	15.2133	168.296	4737.0	4821.1	73.531	33.01	56.12	1333
120.000	25.702	0.03891	14.2148	152.236	5016.6	5102.2	82.934	32.66	56.77	1284
125.000	25.226	0.03954	13.2551	136.906	5300.0	5397.2	85.265	32.26	57.47	1233
130.000	24.733	0.04043	12.3295	122.296	5587.4	5676.3	87.535	31.91	58.33	1180
135.000	24.217	0.04129	11.4330	108.377	5879.7	5970.5	89.756	31.66	59.42	1125
140.000	23.676	0.04224	10.5609	95.099	6178.0	6270.9	91.941	31.51	60.83	1069
145.000	23.105	0.04328	9.7082	82.401	6483.9	6579.1	94.104	31.44	62.50	1011
150.000	22.495	0.04445	8.8691	70.215	6798.8	6896.6	96.256	31.35	64.56	949
155.000	21.837	0.04579	8.0363	58.466	7124.7	7225.5	98.412	31.16	67.03	886
160.000	21.114	0.04736	7.1995	47.075	7464.3	7538.5	100.590	30.80	70.32	813
165.000	20.295	0.04927	6.3422	35.952	7822.8	7931.2	102.622	30.29	75.11	745
168.411	19.653	0.05088	5.7307	28.455	8083.6	8135.5	104.407	29.95	80.27	683
163.411	2.282	0.43822	0.2513	5.542	12489.1	13453.1	135.627	29.89	60.07	273
170.000	2.215	0.44141	0.2404	6.075	12502.0	13559.1	136.230	29.43	62.33	293
175.000	2.045	0.44835	0.2144	7.268	12770.8	13946.5	137.919	28.47	64.92	295
180.000	1.914	0.45237	0.1957	8.294	12953.6	14109.3	139.400	27.86	68.55	303
185.000	1.806	0.45359	0.1812	9.215	13136.3	14334.4	140.743	27.44	72.65	315
190.000	1.715	0.45333	0.1694	10.064	13304.5	14537.2	141.985	27.14	76.55	325
195.000	1.637	0.45110	0.1596	10.856	13466.6	14710.9	143.147	26.91	80.03	333
200.000	1.567	0.43733	0.1512	11.609	13624.1	15027.7	144.245	26.75	83.42	340
205.000	1.506	0.43411	0.1439	12.326	13778.1	15239.1	145.289	26.62	86.81	347
210.000	1.450	0.43953	0.1375	13.014	13929.2	15446.1	146.287	26.53	90.03	354
215.000	1.400	0.43136	0.1317	13.679	14078.0	15649.6	147.245	26.47	93.09	361
220.000	1.354	0.43859	0.1266	14.323	14225.1	15850.2	148.167	26.44	96.06	367
225.000	1.311	0.43259	0.1219	14.949	14370.7	16048.4	149.058	26.42	98.92	373
230.000	1.272	0.42611	0.1176	15.561	14515.1	16244.6	149.920	26.43	101.66	379
235.000	1.236	0.41931	0.1137	16.158	14658.6	16439.1	150.757	26.45	104.30	384
240.000	1.202	0.41221	0.1101	16.744	14801.4	16632.3	151.570	26.48	106.81	390
245.000	1.170	0.40545	0.1067	17.318	14943.6	16824.3	152.362	26.53	109.21	395
250.000	1.140	0.39725	0.1036	17.883	15085.5	17015.4	153.134	26.60	111.50	400
255.000	1.112	0.38945	0.1007	18.439	15227.0	17205.8	153.889	26.67	113.68	405
260.000	1.085	0.38215	0.0980	18.988	15368.5	17395.7	154.625	26.76	115.73	410
265.000	1.060	0.37527	0.0954	19.529	15509.9	17585.1	155.348	26.86	117.68	414
270.000	1.036	0.36834	0.0930	20.063	15651.5	17774.3	156.055	26.97	119.52	419
275.000	1.014	0.36146	0.0908	20.591	15793.2	17963.4	156.749	27.09	121.27	423
280.000	0.992	0.35474	0.0886	21.114	15935.2	18152.4	157.430	27.23	122.91	427
285.000	0.972	0.34810	0.0866	21.631	16077.5	18341.5	158.099	27.37	124.43	432
290.000	0.952	0.34164	0.0847	22.143	16220.2	18530.8	158.756	27.52	125.84	435
295.000	0.933	0.33538	0.0828	22.651	16363.5	18720.3	159.406	27.68	127.14	440
300.000	0.916	0.32922	0.0811	23.155	16507.3	18910.2	160.044	27.85	128.31	444
305.000	0.882	0.32332	0.0778	24.151	16795.8	19291.2	161.293	28.21	130.21	452
320.000	0.851	0.31759	0.0749	25.133	17083.3	19674.5	162.510	28.60	131.95	459
330.000	0.822	0.31208	0.0721	26.104	17369.1	20050.5	163.698	29.02	133.55	466
340.000	0.796	0.30682	0.0696	27.063	17654.6	20429.6	164.859	29.47	135.00	473
350.000	0.771	0.30173	0.0673	28.013	17938.1	20812.2	165.997	29.94	136.35	480
360.000	0.748	0.29674	0.0651	28.953	18220.8	21198.7	167.114	30.43	137.58	487
370.000	0.726	0.29177	0.0630	29.887	18508.1	21639.2	168.212	30.93	138.71	492
380.000	0.705	0.28673	0.0611	30.813	18792.7	22044.2	169.292	31.45	139.73	499
390.000	0.686	0.28174	0.0594	31.732	19074.1	22453.7	170.356	31.99	140.65	505
400.000	0.668	0.27672	0.0577	32.646	19354.1	22868.0	171.404	32.53	141.48	511
420.000	0.634	0.26721	0.0546	34.458	20243.9	23711.6	173.462	33.65	143.63	522
440.000	0.604	0.25749	0.0519	36.252	21135.2	24575.8	175.472	34.79	145.63	533
460.000	0.577	0.24730	0.0494	38.030	22038.7	25461.3	177.440	35.94	147.48	544
480.000	0.552	0.23674	0.0472	39.795	22954.3	26368.4	179.370	37.09	149.09	554
500.000	0.529	0.22580	0.0452	41.549	23882.4	27287.3	181.266	38.23	150.53	564

METHANE ISOJAR AT P = 24.0 BAR

T	DEN	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
91.291	28.194	0.03547	20.6469	253.315	3479.2	3564.3	67.978	33.27	52.61	1580
95.000	27.888	0.03580	19.7098	239.381	3665.8	3751.8	70.086	33.16	52.98	1544
100.000	27.473	0.03640	18.5047	221.000	3923.3	4010.7	72.823	33.25	53.77	1493
105.000	27.050	0.03697	17.3596	203.038	4188.0	4276.7	75.468	33.33	54.63	1440
110.000	26.617	0.03757	16.2693	185.639	4458.6	4548.8	78.027	33.26	55.41	1388
115.000	26.173	0.03821	15.2285	168.896	4734.0	4825.7	80.505	33.03	56.08	1337
120.000	25.715	0.03889	14.2319	152.861	5013.3	5106.6	82.905	32.67	56.72	1285
125.000	25.241	0.03952	13.2742	137.554	5296.2	5391.3	85.234	32.28	57.41	1233
130.000	24.749	0.04041	12.3507	122.969	5583.2	5630.1	87.502	31.93	58.25	1183
135.000	24.236	0.04126	11.4566	109.076	5874.9	5973.9	89.720	31.68	59.33	1128
140.000	23.697	0.04220	10.5873	95.828	6172.6	6273.8	91.902	31.53	60.69	1072
145.000	23.129	0.04324	9.7378	83.164	6477.6	6581.3	94.000	31.45	62.36	1014
150.000	22.524	0.04440	8.9025	71.018	6791.5	6898.0	96.206	31.36	64.36	953
155.000	21.871	0.04572	8.0746	59.318	7116.0	7225.7	98.355	31.17	66.79	890
160.000	21.156	0.04727	7.2444	47.991	7453.7	7557.1	100.522	30.81	69.91	824
165.000	20.350	0.04914	6.3969	36.954	7809.1	7927.1	102.737	30.29	74.42	752
170.000	19.399	0.05155	5.5501	26.095	8192.9	8316.6	105.062	29.81	82.25	670
170.814	19.224	0.05202	5.3508	24.330	8258.0	8332.9	105.449	30.13	84.53	652
170.814	2.532	0.33495	0.2840	5.214	12464.7	13412.6	134.897	30.35	71.73	277
175.000	2.338	0.42765	0.2530	6.382	12662.0	13638.4	135.493	29.17	51.25	283
180.000	2.150	0.44153	0.2272	7.543	12869.6	13970.5	138.116	28.34	54.58	301
185.000	2.031	0.43233	0.2082	8.557	13056.9	14238.5	139.553	27.80	50.51	311
190.000	1.920	0.52085	0.1932	9.474	13233.7	14483.7	140.861	27.42	47.74	321
195.000	1.825	0.54781	0.1810	10.322	13402.4	14717.1	142.073	27.15	45.72	329
200.000	1.743	0.57358	0.1708	11.118	13565.2	14941.8	143.211	26.94	44.20	337
205.000	1.671	0.59841	0.1619	11.872	13723.5	15159.7	144.287	26.79	43.00	345
210.000	1.606	0.62247	0.1542	12.593	13878.3	15372.2	145.311	26.58	42.05	352
215.000	1.548	0.64531	0.1474	13.286	14030.3	15580.5	146.291	26.60	41.27	358
220.000	1.495	0.66830	0.1414	13.955	14180.1	15785.2	147.233	26.55	40.64	365
225.000	1.447	0.69124	0.1359	14.604	14328.1	15987.1	148.146	26.52	40.12	371
230.000	1.402	0.71328	0.1309	15.235	14474.6	16186.5	149.017	26.52	39.68	377
235.000	1.361	0.73497	0.1264	15.851	14620.1	16384.0	149.866	26.53	39.32	383
240.000	1.322	0.75630	0.1222	16.454	14764.6	16579.8	150.691	26.56	39.02	389
245.000	1.286	0.77748	0.1184	17.044	14908.4	16774.3	151.493	26.50	38.78	394
250.000	1.253	0.79832	0.1148	17.623	15051.6	16967.7	152.274	26.56	38.53	399
255.000	1.221	0.81901	0.1115	18.193	15194.5	17150.2	153.037	26.73	38.42	404
260.000	1.191	0.83946	0.1084	18.754	15337.2	17331.9	153.781	26.82	38.29	409
265.000	1.163	0.85974	0.1055	19.307	15479.8	17513.2	154.510	26.91	38.20	415
270.000	1.137	0.87985	0.1028	19.852	15622.4	17694.0	155.223	27.02	38.14	421
275.000	1.111	0.89982	0.1002	20.391	15765.1	17874.6	155.923	27.14	38.10	427
280.000	1.087	0.91954	0.0978	20.923	15908.0	18115.1	156.609	27.27	38.09	433
285.000	1.065	0.93934	0.0955	21.450	16051.1	18305.0	157.283	27.41	38.10	439
290.000	1.043	0.95892	0.0933	21.971	16194.7	18496.1	157.946	27.56	38.13	445
295.000	1.022	0.97840	0.0912	22.488	16338.7	18686.9	158.598	27.72	38.17	451
300.000	1.002	0.99777	0.0893	22.999	16483.2	18877.9	159.240	27.89	38.24	457
310.000	0.965	1.03624	0.0856	24.010	16774.1	19251.1	160.497	28.24	38.41	451
320.000	0.931	1.07437	0.0823	25.006	17067.8	19626.3	161.720	28.64	38.64	453
330.000	0.895	1.11222	0.0792	25.989	17364.7	20034.0	162.913	29.05	38.92	455
340.000	0.870	1.14932	0.0764	26.959	17665.2	20424.7	164.079	29.50	39.23	473
350.000	0.842	1.18718	0.0738	27.920	17969.6	20818.8	165.222	29.96	39.53	480
360.000	0.817	1.22435	0.0714	28.870	18278.2	21216.6	166.342	30.45	39.93	485
370.000	0.793	1.26133	0.0691	29.813	18591.3	21618.5	167.443	30.96	40.39	492
380.000	0.770	1.29814	0.0670	30.747	18909.1	22024.6	168.526	31.48	40.83	499
390.000	0.749	1.33481	0.0651	31.675	19231.7	22435.2	169.593	32.01	41.31	505
400.000	0.729	1.37134	0.0632	32.596	19559.4	22850.6	170.645	32.56	41.77	511
420.000	0.693	1.44403	0.0598	34.421	20230.3	23696.0	172.707	33.67	42.78	522
440.000	0.659	1.51631	0.0568	36.226	20922.7	24501.8	174.721	34.81	43.82	533
460.000	0.630	1.58823	0.0541	38.015	21637.0	25448.8	176.692	35.96	44.88	544
480.000	0.602	1.65986	0.0516	39.789	22373.6	26357.3	178.625	37.11	45.95	554
500.000	0.578	1.73122	0.0494	41.551	23132.4	27287.3	180.523	38.25	47.04	564

METHANE ISOBAR AT P = 26.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	M/SEC
91.342	28.198	0.03546	20.6404	253.576	3479.8	3572.1	67.986	33.29	52.59	1580
95.000	27.896	0.03585	19.7177	239.853	3663.8	3757.0	70.065	33.18	52.97	1545
100.000	27.482	0.03639	18.5145	221.510	3921.1	4015.8	72.801	33.26	53.75	1494
105.000	27.060	0.03696	17.3712	203.581	4185.6	4281.7	75.444	33.34	54.60	1441
110.000	26.628	0.03755	16.2827	186.211	4455.9	4553.6	78.002	33.28	55.37	1390
115.000	26.185	0.03819	15.2437	169.494	4731.0	4830.3	80.479	33.05	56.04	1349
120.000	25.728	0.03887	14.2489	153.484	5009.9	5111.0	82.877	32.69	56.67	1288
125.000	25.250	0.03960	13.2932	139.201	5292.5	5395.5	85.204	32.30	57.35	1237
130.000	24.765	0.04033	12.3718	123.640	5579.0	5684.0	87.469	31.95	58.13	1185
135.000	24.254	0.04123	11.4801	109.772	5870.2	5977.4	89.685	31.69	59.25	1131
140.000	23.718	0.04216	10.6134	96.553	6167.2	6276.8	91.852	31.55	60.58	1075
145.000	23.153	0.04319	9.7670	83.922	6471.4	6583.7	94.016	31.47	62.22	1017
150.000	22.552	0.04434	8.9355	71.615	6784.2	6899.5	96.157	31.38	64.17	957
155.000	21.905	0.04565	8.1123	60.164	7107.4	7226.1	98.298	31.19	66.52	894
160.000	21.197	0.04718	7.2885	48.898	7443.2	7565.8	100.455	30.82	69.51	829
165.000	20.403	0.04901	6.4502	37.942	7795.8	7923.3	102.655	30.29	73.70	754
170.000	19.474	0.05135	5.5727	27.202	8174.7	8308.2	104.952	29.79	80.90	679
173.077	18.792	0.05321	4.9412	20.625	8429.5	8597.8	106.403	30.09	89.29	613
173.077	2.796	0.35772	0.3208	4.777	12433.5	13303.6	134.175	30.85	78.55	275
175.000	2.678	0.37333	0.3006	5.398	12536.0	13506.9	134.939	30.11	70.95	282
180.000	2.446	0.41877	0.2637	6.744	12767.8	13830.7	136.824	28.92	59.94	295
185.000	2.275	0.43961	0.2385	7.871	12971.4	14114.4	138.379	28.21	54.04	307
190.000	2.136	0.45771	0.2194	8.868	13158.6	14374.7	139.707	27.73	50.30	317
195.000	2.024	0.47335	0.2043	9.776	13335.0	14619.3	141.038	27.39	47.70	326
200.000	1.927	0.51882	0.1917	10.621	13503.8	14852.8	142.220	27.15	45.78	334
205.000	1.843	0.54253	0.1811	11.415	13667.0	15077.8	143.332	26.96	44.31	342
210.000	1.768	0.55560	0.1720	12.170	13825.9	15296.4	144.385	26.83	43.15	349
215.000	1.701	0.56738	0.1640	12.892	13981.3	15509.8	145.390	26.73	42.23	356
220.000	1.640	0.61959	0.1569	13.587	14134.1	15719.0	146.351	26.66	41.47	363
225.000	1.585	0.63031	0.1505	14.259	14284.6	15924.7	147.276	26.62	40.85	369
230.000	1.535	0.65161	0.1448	14.912	14433.5	16127.7	148.168	26.61	40.33	375
235.000	1.488	0.67205	0.1396	15.546	14580.9	16323.2	149.031	26.61	39.91	381
240.000	1.445	0.69216	0.1348	16.166	14727.2	16526.8	149.867	26.53	39.55	387
245.000	1.404	0.71200	0.1304	16.772	14872.6	16723.8	150.680	26.57	39.26	392
250.000	1.367	0.73158	0.1263	17.366	15017.4	16919.5	151.470	26.73	39.02	398
255.000	1.332	0.75094	0.1226	17.950	15161.7	17114.1	152.241	26.79	38.83	403
260.000	1.299	0.77039	0.1191	18.523	15305.6	17307.9	152.993	26.87	38.67	408
265.000	1.267	0.78990	0.1158	19.088	15449.4	17500.9	153.729	26.97	38.55	412
270.000	1.238	0.80937	0.1127	19.644	15593.0	17693.5	154.449	27.07	38.47	417
275.000	1.210	0.82852	0.1098	20.193	15736.7	17885.7	155.154	27.19	38.41	422
280.000	1.183	0.84750	0.1071	20.735	15880.6	18077.5	155.846	27.31	38.33	426
285.000	1.158	0.86633	0.1045	21.271	16024.6	18269.5	156.525	27.45	38.37	430
290.000	1.134	0.88506	0.1021	21.801	16169.0	18461.3	157.192	27.60	38.39	435
295.000	1.111	0.89982	0.0998	22.326	16313.8	18653.3	157.849	27.76	38.41	439
300.000	1.089	0.91736	0.0976	22.846	16459.1	18845.5	158.495	27.92	38.46	443
310.000	1.049	0.95353	0.0936	23.872	16751.3	19230.8	159.758	28.28	38.61	451
320.000	1.011	0.98991	0.0898	24.881	17046.2	19616.0	160.997	28.67	38.82	459
330.000	0.976	1.02435	0.0865	25.876	17344.2	20007.5	162.186	29.06	39.03	466
340.000	0.944	1.05929	0.0833	26.858	17645.7	20399.8	163.357	29.53	39.33	473
350.000	0.914	1.09399	0.0805	27.828	17951.0	20795.4	164.504	29.99	39.73	479
360.000	0.886	1.12850	0.0778	28.789	18260.5	21194.5	165.628	30.46	40.11	485
370.000	0.860	1.16281	0.0753	29.740	18574.4	21597.7	166.733	30.98	40.52	492
380.000	0.835	1.19696	0.0730	30.683	18892.9	22005.0	167.819	31.50	40.95	499
390.000	0.812	1.23037	0.0708	31.618	19216.3	22416.8	168.888	32.03	41.47	506
400.000	0.791	1.26483	0.0688	32.546	19544.6	22833.1	169.943	32.58	41.87	511
420.000	0.751	1.33220	0.0650	34.385	20216.7	23680.4	172.009	33.69	42.65	522
440.000	0.715	1.39914	0.0617	36.202	20910.2	24547.9	174.027	34.83	43.83	533
460.000	0.682	1.46574	0.0588	38.001	21625.5	25436.4	176.002	35.98	44.95	544
480.000	0.653	1.53203	0.0561	39.784	22362.9	26346.1	177.937	37.12	46.03	554
500.000	0.626	1.59806	0.0536	41.554	23122.4	27277.4	179.838	38.26	47.10	565

METHANE ISOBAR AT P = 28.0 BAR

T	DEN	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
91.393	28.202	0.03546	20.6340	253.837	3480.5	3579.8	67.995	33.30	52.57	1581
95.000	27.905	0.03584	19.7256	240.324	3661.8	3752.2	70.044	33.20	52.95	1545
100.000	27.491	0.03638	18.5243	222.018	3919.0	4020.8	72.779	33.28	53.73	1495
105.000	27.070	0.03694	17.3827	204.123	4183.2	4286.6	75.421	33.36	54.57	1443
110.000	26.639	0.03754	16.2960	186.782	4453.3	4558.4	77.978	33.30	55.34	1391
115.000	26.196	0.03817	15.2588	170.092	4728.0	4834.9	80.453	33.06	56.00	1340
120.000	25.741	0.03885	14.2658	154.105	5006.6	5115.4	82.849	32.71	56.63	1290
125.000	25.270	0.03957	13.3121	138.846	5288.8	5394.6	85.174	32.32	57.33	1239
130.000	24.781	0.04035	12.3928	124.309	5574.8	5687.8	87.437	31.97	58.12	1187
135.000	24.272	0.04120	11.5034	110.466	5865.5	5980.8	89.649	31.71	59.10	1133
140.000	23.739	0.04213	10.6394	97.275	6161.8	6279.8	91.823	31.56	60.47	1073
145.000	23.176	0.04315	9.7960	84.670	6463.2	6586.0	93.973	31.49	62.08	1020
150.000	22.579	0.04429	8.9682	72.608	6777.1	6901.1	96.109	31.39	63.93	960
155.000	21.938	0.04558	8.1496	61.004	7098.9	7226.6	98.243	31.20	66.25	899
160.000	21.237	0.04709	7.3319	49.796	7432.9	7564.7	100.369	30.83	69.13	834
165.000	20.455	0.04889	6.5023	38.917	7782.8	7919.7	102.574	30.30	73.14	765
170.000	19.546	0.05116	5.6369	28.287	8157.1	8300.4	104.846	29.77	79.79	687
175.000	18.410	0.05432	4.6926	17.750	8577.3	8729.4	107.330	30.13	84.18	583
175.216	18.353	0.05449	4.6483	17.293	8597.2	8749.8	107.446	30.15	85.15	583
175.216	3.075	0.32520	0.3603	4.332	12395.4	13335.9	133.452	31.38	86.92	273
180.000	2.763	0.35187	0.3072	5.877	12654.3	13667.5	135.490	29.64	87.43	289
185.000	2.541	0.39352	0.2729	7.149	12878.4	13930.2	137.204	28.68	88.53	302
190.000	2.372	0.42150	0.2484	8.241	13078.5	14259.0	138.691	28.08	89.37	312
195.000	2.235	0.44740	0.2296	9.218	13264.1	14516.3	140.031	27.66	89.96	322
200.000	2.120	0.47161	0.2143	10.110	13439.9	14790.4	141.254	27.36	89.55	331
205.000	2.022	0.49463	0.2016	10.954	13608.6	14993.5	142.415	27.14	89.75	339
210.000	1.935	0.51671	0.1908	11.745	13771.8	15218.6	143.500	26.98	89.43	347
215.000	1.859	0.53805	0.1814	12.498	13931.0	15437.5	144.530	26.86	89.25	354
220.000	1.790	0.55876	0.1731	13.220	14086.9	15651.5	145.514	26.78	89.35	361
225.000	1.727	0.57896	0.1658	13.910	14240.3	15861.3	146.457	26.73	89.62	368
230.000	1.670	0.59871	0.1592	14.590	14391.5	16067.9	147.365	26.70	89.82	374
235.000	1.618	0.61808	0.1532	15.244	14541.1	16271.7	148.242	26.70	89.92	380
240.000	1.570	0.63712	0.1478	15.881	14689.3	16473.3	149.091	26.71	89.91	386
245.000	1.525	0.65586	0.1428	16.503	14836.5	16672.9	149.914	26.74	89.76	391
250.000	1.483	0.67434	0.1382	17.112	14982.8	16871.0	150.714	26.79	89.48	396
255.000	1.444	0.69250	0.1340	17.709	15129.5	17067.8	151.494	26.85	89.25	402
260.000	1.407	0.71064	0.1300	18.295	15273.7	17263.5	152.254	26.93	89.00	407
265.000	1.373	0.72849	0.1263	18.871	15418.7	17458.4	152.997	27.02	88.91	412
270.000	1.340	0.74617	0.1229	19.439	15563.4	17652.7	153.723	27.12	88.80	416
275.000	1.309	0.76369	0.1197	19.998	15708.2	17846.5	154.434	27.23	88.72	421
280.000	1.280	0.78108	0.1166	20.550	15853.0	18040.0	155.131	27.36	88.67	425
285.000	1.253	0.79833	0.1138	21.096	15997.9	18233.3	155.815	27.49	88.64	430
290.000	1.226	0.81546	0.1111	21.634	16143.2	18426.5	156.487	27.64	88.64	434
295.000	1.201	0.83247	0.1085	22.167	16288.8	18619.7	157.148	27.79	88.66	438
300.000	1.177	0.84938	0.1061	22.695	16434.8	18813.0	157.798	27.96	88.69	442
310.000	1.133	0.88293	0.1016	23.735	16728.4	19230.6	159.069	28.31	88.82	450
320.000	1.092	0.91614	0.0975	24.758	17024.5	19539.7	160.304	28.70	89.01	458
330.000	1.054	0.94905	0.0938	25.765	17323.6	19931.0	161.508	29.11	89.20	465
340.000	1.019	0.98171	0.0903	26.758	17626.2	20375.0	162.684	29.55	89.55	472
350.000	0.986	1.01413	0.0872	27.739	17932.5	20772.0	163.835	30.02	89.88	479
360.000	0.956	1.04635	0.0842	28.709	18242.8	21172.6	164.964	30.50	90.22	485
370.000	0.927	1.07838	0.0815	29.669	18557.5	21577.0	166.072	31.00	90.64	492
380.000	0.901	1.11025	0.0790	30.620	18876.8	21985.5	167.161	31.52	91.06	499
390.000	0.876	1.14197	0.0766	31.563	19200.8	22398.3	168.233	32.06	91.51	505
400.000	0.852	1.17355	0.0744	32.498	19529.8	22815.7	169.290	32.63	91.97	511
420.000	0.809	1.23635	0.0703	34.350	20203.1	23654.9	171.361	33.71	92.95	522
440.000	0.770	1.29872	0.0667	36.178	20897.6	24534.0	173.383	34.85	93.97	533
460.000	0.735	1.36075	0.0635	37.987	21613.9	25423.9	175.361	35.99	95.02	544
480.000	0.703	1.42247	0.0605	39.779	22352.1	26335.0	177.299	37.14	96.09	555
500.000	0.674	1.48392	0.0579	41.557	23112.5	27267.5	179.202	38.28	97.10	565

METHANE ISOBAR AT P = 30.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
91.444	28.206	0.03545	20.6276	254.097	3481.1	3537.5	68.003	33.31	52.56	1581
95.000	27.913	0.03583	19.7335	240.793	3653.8	3767.3	70.023	33.21	52.93	1547
100.000	27.500	0.03636	18.5340	222.526	3916.8	4025.9	72.757	33.30	53.71	1490
105.000	27.079	0.03693	17.3942	204.663	4180.8	4231.6	75.398	33.38	54.55	1444
110.000	26.649	0.03752	16.3092	187.351	4450.6	4563.2	77.953	33.31	55.30	1392
115.000	26.208	0.03816	15.2738	170.687	4725.1	4839.5	80.426	33.08	55.95	1342
120.000	25.754	0.03883	14.2827	154.724	5003.3	5119.8	82.821	32.73	56.58	1291
125.000	25.284	0.03955	13.3309	139.489	5285.1	5403.8	85.144	32.33	57.24	1241
130.000	24.797	0.04033	12.4137	124.975	5570.7	5691.7	87.404	31.98	58.05	1189
135.000	24.290	0.04117	11.5265	111.158	5860.8	5984.3	89.614	31.73	59.08	1130
140.000	23.759	0.04209	10.6651	97.994	6156.5	6282.8	91.785	31.58	60.37	1081
145.000	23.200	0.04310	9.8247	85.427	6459.1	6588.4	93.930	31.50	61.94	1023
150.000	22.607	0.04423	9.0005	73.396	6770.0	6902.7	96.060	31.41	63.81	964
155.000	21.970	0.04552	8.1864	61.837	7090.6	7227.1	98.187	31.21	66.01	903
160.000	21.277	0.04700	7.3745	50.685	7422.8	7563.8	100.325	30.84	68.76	839
165.000	20.506	0.04877	6.5532	39.880	7770.2	7916.5	102.495	30.30	72.55	772
170.000	19.610	0.05093	5.7028	29.351	8140.2	8293.1	104.744	29.76	78.71	695
175.000	18.519	0.05400	4.7819	18.982	8551.7	8713.7	107.178	30.07	81.54	600
177.245	17.902	0.05586	4.3190	14.298	8762.8	8930.4	108.408	30.29	82.43	549
177.245	3.374	0.23641	0.4039	3.878	12349.5	13238.8	132.719	31.38	97.45	271
180.000	3.134	0.31914	0.3611	4.913	12521.9	13479.0	134.064	30.59	79.22	262
185.000	2.837	0.35250	0.3128	6.382	12775.6	13833.1	136.006	29.24	64.43	290
190.000	2.625	0.33100	0.2609	7.589	12992.5	14135.5	137.619	28.47	57.14	300
195.000	2.459	0.40660	0.2573	8.645	13189.2	14409.1	139.041	27.96	52.64	319
200.000	2.323	0.43043	0.2387	9.603	13373.0	14664.3	140.333	27.00	49.53	328
205.000	2.208	0.45234	0.2235	10.488	13547.9	14900.4	141.528	27.34	47.35	337
210.000	2.109	0.47421	0.2107	11.317	13716.1	15138.8	142.648	27.14	45.07	344
215.000	2.021	0.49476	0.1997	12.103	13879.4	15363.7	143.707	27.00	44.55	352
220.000	1.943	0.51404	0.1901	12.854	14038.7	15582.6	144.714	26.30	43.23	359
225.000	1.873	0.53397	0.1817	13.574	14195.0	15796.9	145.677	26.84	42.44	360
230.000	1.809	0.55283	0.1742	14.270	14348.8	16007.3	146.602	26.80	41.74	372
235.000	1.750	0.57123	0.1674	14.944	14500.6	16214.5	147.493	26.78	41.16	373
240.000	1.697	0.58940	0.1612	15.598	14650.9	16419.1	148.354	26.79	40.68	384
245.000	1.647	0.60720	0.1556	16.237	14799.8	16621.5	149.189	26.81	40.28	390
250.000	1.601	0.62474	0.1504	16.860	14947.8	16822.0	150.939	26.86	39.95	399
255.000	1.558	0.64203	0.1457	17.471	15095.0	17021.1	151.788	26.91	39.68	401
260.000	1.517	0.65911	0.1413	18.070	15241.6	17218.9	151.556	26.99	39.46	400
265.000	1.479	0.67600	0.1372	18.658	15387.7	17415.7	152.306	27.07	39.28	411
270.000	1.444	0.69271	0.1333	19.237	15533.6	17611.8	153.039	27.17	39.14	410
275.000	1.410	0.70920	0.1297	19.807	15679.4	17807.2	153.756	27.28	39.04	420
280.000	1.378	0.72567	0.1264	20.368	15825.2	18002.2	154.459	27.40	38.97	429
285.000	1.348	0.74194	0.1232	20.923	15971.1	18196.9	155.148	27.54	38.92	429
290.000	1.319	0.75809	0.1202	21.470	16117.2	18391.5	155.825	27.68	38.90	434
295.000	1.292	0.77412	0.1174	22.011	16263.6	18586.0	156.490	27.83	38.90	433
300.000	1.266	0.79005	0.1147	22.547	16410.4	18780.5	157.144	27.99	38.93	442
310.000	1.217	0.82163	0.1098	23.601	16705.4	19170.2	158.421	28.35	39.03	450
320.000	1.173	0.85280	0.1053	24.637	17002.8	19561.3	159.663	28.73	39.20	458
330.000	1.131	0.88330	0.1012	25.656	17303.0	19954.4	160.873	29.14	39.43	469
340.000	1.094	0.91448	0.0974	26.661	17606.6	20350.1	162.054	29.58	39.70	472
350.000	1.058	0.94493	0.0940	27.652	17913.9	20748.6	163.209	30.04	40.02	479
360.000	1.025	0.97517	0.0908	28.631	18225.1	21150.6	164.341	30.53	40.38	485
370.000	0.995	1.00522	0.0878	29.600	18540.0	21556.3	165.453	31.03	40.70	492
380.000	0.966	1.03511	0.0850	30.559	18860.6	21965.9	166.545	31.55	41.13	499
390.000	0.939	1.06495	0.0824	31.509	19185.3	22379.9	167.621	32.08	41.62	509
400.000	0.914	1.09445	0.0800	32.452	19515.0	22798.3	168.680	32.62	42.07	511
420.000	0.867	1.15329	0.0756	34.310	20189.5	23649.3	170.756	33.73	43.04	522
440.000	0.820	1.21170	0.0717	36.156	20885.1	24520.2	172.781	34.87	44.05	534
460.000	0.788	1.26975	0.0682	37.975	21602.3	25411.5	174.762	36.01	45.09	544
480.000	0.753	1.32752	0.0650	39.776	22341.4	26323.9	176.704	37.16	46.15	555
500.000	0.722	1.38502	0.0622	41.561	23102.5	27257.6	178.609	38.30	47.21	560

METHANE ISOBAR AT P = 32.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
91.495	28.210	0.03545	20.6211	254.357	3481.8	3535.2	68.011	33.33	52.55	1581
95.000	27.921	0.03532	19.7413	241.261	3657.9	3772.5	70.002	33.23	52.91	1547
100.000	27.509	0.03635	18.5437	223.032	3914.6	4031.0	72.735	33.31	53.69	1497
105.000	27.089	0.03692	17.4056	205.202	4178.4	4290.5	75.375	33.40	54.52	1445
110.000	26.660	0.03751	16.3224	187.919	4448.0	4508.0	77.929	33.33	55.27	1394
115.000	26.220	0.03814	15.2887	171.281	4722.1	4844.2	80.400	33.10	55.93	1343
120.000	25.767	0.03881	14.2994	155.342	5000.1	5124.3	82.794	32.74	56.53	1293
125.000	25.299	0.03953	13.3495	140.130	5281.5	5408.0	85.114	32.35	57.13	1243
130.000	24.813	0.04030	12.4344	125.640	5566.6	5695.5	87.372	32.00	57.98	1191
135.000	24.308	0.04114	11.5495	111.847	5856.1	5987.8	89.579	31.75	58.99	1138
140.000	23.779	0.04205	10.6906	98.710	6151.2	6235.8	91.746	31.60	60.26	1083
145.000	23.223	0.04306	9.8532	86.174	6453.1	6590.9	93.887	31.52	61.81	1026
150.000	22.634	0.04418	9.0325	74.180	6763.0	6904.4	95.013	31.43	63.63	963
155.000	22.002	0.04545	8.2227	62.664	7082.3	7227.8	98.133	31.23	65.77	907
160.000	21.316	0.04631	7.4164	51.567	7412.9	7563.0	100.261	30.85	68.41	844
165.000	20.555	0.04855	6.6030	40.831	7757.8	7913.4	102.417	30.30	72.00	779
170.000	19.683	0.05081	5.7647	30.396	8123.8	8280.4	104.644	29.74	77.72	704
175.000	18.621	0.05370	4.8663	20.175	8527.7	8699.5	107.035	30.02	89.25	612
179.176	17.435	0.05736	4.0000	11.614	8927.7	9111.2	109.360	30.51	111.74	510
179.176	3.696	0.27056	0.4523	3.415	12295.2	13151.0	131.965	32.65	111.24	269
180.000	3.595	0.27818	0.4332	3.790	12358.0	13248.2	132.450	32.01	100.98	273
185.000	3.172	0.31524	0.3601	5.554	12659.9	13668.6	134.756	29.93	72.84	290
190.000	2.901	0.34474	0.3176	6.906	12899.1	14002.3	136.536	28.31	51.89	304
195.000	2.699	0.37056	0.2878	8.055	13109.6	14235.3	138.059	26.28	55.81	315
200.000	2.537	0.39410	0.2611	9.079	13302.9	14564.0	139.419	27.85	51.89	325
205.000	2.403	0.41607	0.2469	10.015	13484.8	14816.2	140.665	27.54	49.14	334
210.000	2.289	0.43688	0.2318	10.887	13658.6	15056.6	141.824	27.31	47.10	342
215.000	2.189	0.45679	0.2191	11.767	13826.3	15288.0	142.913	27.15	45.53	350
220.000	2.101	0.47597	0.2080	12.487	13989.4	15512.5	143.945	27.03	44.30	357
225.000	2.022	0.49457	0.1983	13.233	14148.8	15731.4	144.929	26.95	43.33	364
230.000	1.951	0.51266	0.1897	13.951	14305.3	15945.8	145.872	26.90	42.43	371
235.000	1.886	0.53033	0.1820	14.645	14459.5	16156.6	146.778	26.87	41.83	377
240.000	1.826	0.54764	0.1751	15.318	14611.9	16364.3	147.653	26.87	41.28	383
245.000	1.771	0.56463	0.1688	15.973	14762.7	16569.5	148.499	26.89	40.82	389
250.000	1.720	0.58134	0.1630	16.612	14912.4	16772.6	149.320	26.92	40.44	394
255.000	1.673	0.59780	0.1577	17.236	15061.1	16974.0	150.117	26.98	40.12	400
260.000	1.629	0.61404	0.1528	17.848	15209.1	17174.0	150.894	27.04	39.87	405
265.000	1.587	0.63008	0.1482	18.448	15356.5	17372.8	151.651	27.13	39.65	410
270.000	1.548	0.64595	0.1440	19.038	15503.6	17570.6	152.391	27.22	39.44	415
275.000	1.511	0.66165	0.1400	19.618	15650.5	17767.8	153.114	27.33	39.36	420
280.000	1.477	0.67720	0.1363	20.189	15797.3	17964.3	153.823	27.45	39.27	424
285.000	1.444	0.69262	0.1328	20.753	15944.1	18160.5	154.517	27.58	39.20	429
290.000	1.413	0.70791	0.1295	21.309	16091.1	18356.4	155.198	27.72	39.16	433
295.000	1.383	0.72308	0.1264	21.858	16238.3	18552.2	155.868	27.87	39.15	437
300.000	1.355	0.73815	0.1235	22.401	16385.8	18747.9	156.526	28.03	39.16	442
310.000	1.302	0.76801	0.1181	23.470	16682.3	19139.9	157.811	28.38	39.24	450
320.000	1.254	0.79752	0.1132	24.519	16980.9	19533.0	159.059	28.76	39.33	458
330.000	1.210	0.82673	0.1087	25.550	17282.4	19927.9	160.274	29.17	39.60	466
340.000	1.169	0.85568	0.1046	26.565	17587.0	20325.2	161.460	29.61	39.83	472
350.000	1.131	0.88439	0.1008	27.566	17895.2	20725.3	162.620	30.07	40.17	479
360.000	1.095	0.91290	0.0974	28.555	18207.3	21126.6	163.756	30.55	40.51	486
370.000	1.062	0.94122	0.0941	29.532	18523.6	21535.5	164.871	31.05	40.89	492
380.000	1.032	0.96938	0.0911	30.500	18844.4	21946.4	165.967	31.57	41.29	499
390.000	1.003	0.99738	0.0883	31.457	19169.8	22351.5	167.045	32.10	41.72	506
400.000	0.975	1.02525	0.0857	32.407	19500.1	22780.9	168.107	32.64	42.17	511
420.000	0.925	1.08062	0.0810	34.284	20175.9	23633.8	170.187	33.75	43.13	523
440.000	0.881	1.13556	0.0767	36.134	20872.5	24506.3	172.217	34.88	44.13	534
460.000	0.840	1.19016	0.0729	37.963	21590.7	25399.2	174.201	36.03	45.16	545
480.000	0.804	1.24445	0.0695	39.773	22330.6	26312.9	176.145	37.17	46.21	555
500.000	0.770	1.29848	0.0665	41.566	23092.6	27247.7	178.053	38.31	47.27	565

METHANE ISOBAR AT P = 34.0 BAR

T	DEN	VOL	DP/DT	OP/DO	Z	H	S	CV	CP	W
DEG K	MDL/L	L/MDL	BAR/K	BAR-L/MDL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
91.546	28.214	0.03544	20.6147	254.616	3482.4	3602.9	68.020	33.34	52.54	1581
95.000	27.929	0.03540	19.7491	241.728	3655.9	3777.7	69.981	33.25	52.90	1548
100.000	27.518	0.03634	18.5533	223.537	3912.5	4036.0	72.713	33.33	53.67	1498
105.000	27.099	0.03630	17.4170	205.740	4176.0	4301.5	75.352	33.41	54.50	1445
110.000	26.671	0.03749	16.3355	188.486	4445.3	4572.8	77.904	33.35	55.24	1395
115.000	26.232	0.03812	15.3036	171.874	4719.2	4848.8	80.375	33.12	55.89	1345
120.000	25.780	0.03879	14.3161	155.959	4996.8	5128.7	82.766	32.76	56.49	1295
125.000	25.313	0.03951	13.3681	140.769	5277.8	5412.2	85.085	32.37	57.13	1245
130.000	24.829	0.04028	12.4550	126.302	5562.5	5693.4	87.340	32.02	57.92	1193
135.000	24.326	0.04111	11.5724	112.534	5851.5	5991.3	89.544	31.76	58.91	1141
140.000	23.800	0.04202	10.7160	99.423	6146.0	6288.9	91.708	31.62	60.16	1089
145.000	23.246	0.04302	9.8814	86.918	6447.1	6593.4	93.845	31.53	61.63	1029
150.000	22.661	0.04413	9.0641	74.959	6756.1	6906.1	95.965	31.44	63.46	971
155.000	22.034	0.04538	8.2585	63.486	7074.2	7228.5	98.079	31.24	65.54	911
160.000	21.355	0.04683	7.4577	52.441	7403.1	7562.3	100.198	30.86	68.07	849
165.000	20.604	0.04853	6.6517	41.770	7745.6	7910.7	102.342	30.31	71.46	784
170.000	19.748	0.05064	5.8247	31.424	8108.0	8280.2	104.548	29.74	76.80	711
175.000	18.718	0.05343	4.9464	21.336	8504.8	8686.5	106.900	29.97	83.25	622
180.000	17.325	0.05772	3.9353	11.315	8977.7	9174.0	109.645	30.53	112.61	510
181.019	16.945	0.05901	3.6907	9.217	9093.5	9294.2	110.311	30.83	124.00	481
181.019	4.048	0.24704	0.5068	2.943	12230.9	13070.8	131.177	33.43	129.84	257
185.000	3.565	0.24052	0.4182	4.644	12525.3	13479.1	133.410	30.82	95.60	284
190.000	3.206	0.31187	0.3597	0.185	12796.6	13857.0	135.426	29.43	68.03	293
195.000	2.957	0.33821	0.3217	7.444	13024.4	14174.3	137.075	28.64	59.64	311
200.000	2.764	0.36174	0.2938	8.544	13229.0	14458.9	138.516	28.12	54.57	321
205.000	2.608	0.38343	0.2721	9.536	13413.0	14722.7	139.819	27.76	51.13	331
210.000	2.476	0.40381	0.2543	10.452	13599.0	14972.0	141.021	27.49	48.63	340
215.000	2.363	0.42319	0.2395	11.310	13771.7	15210.5	142.144	27.30	46.82	348
220.000	2.264	0.44179	0.2268	12.120	13938.8	15440.9	143.203	27.16	45.37	355
225.000	2.175	0.45975	0.2157	12.893	14101.6	15664.8	144.209	27.06	44.22	362
230.000	2.096	0.47719	0.2060	13.634	14261.1	15883.5	145.171	27.00	43.23	369
235.000	2.024	0.49417	0.1973	14.349	14417.8	16098.0	146.093	26.96	42.53	375
240.000	1.958	0.51078	0.1895	15.040	14572.3	16309.0	146.982	26.95	41.90	382
245.000	1.897	0.52700	0.1824	15.712	14725.1	16517.1	147.840	26.96	41.37	388
250.000	1.841	0.54304	0.1760	16.366	14876.5	16722.9	148.671	26.99	40.94	393
255.000	1.790	0.55878	0.1701	17.004	15026.8	16926.7	149.478	27.04	40.58	399
260.000	1.741	0.57428	0.1646	17.629	15176.3	17128.8	150.263	27.10	40.23	404
265.000	1.696	0.58958	0.1596	18.241	15325.0	17329.6	151.028	27.18	40.04	409
270.000	1.654	0.60470	0.1549	18.841	15473.3	17529.3	151.775	27.27	39.85	414
275.000	1.614	0.61965	0.1505	19.432	15621.3	17728.1	152.505	27.38	39.69	419
280.000	1.576	0.63445	0.1465	20.013	15769.2	17926.3	153.219	27.49	39.57	424
285.000	1.541	0.64911	0.1426	20.586	15917.0	18123.9	153.918	27.62	39.49	429
290.000	1.507	0.66365	0.1390	21.151	16064.8	18321.2	154.605	27.76	39.43	433
295.000	1.475	0.67807	0.1356	21.708	16212.9	18518.3	155.278	27.91	39.40	437
300.000	1.444	0.69238	0.1324	22.259	16361.2	18715.3	155.941	28.07	39.43	441
310.000	1.388	0.72071	0.1265	23.342	16659.1	19109.5	157.233	28.41	39.45	449
320.000	1.336	0.74870	0.1212	24.404	16953.0	19504.6	158.488	28.79	39.55	457
330.000	1.288	0.77638	0.1163	25.447	17261.6	19901.3	159.708	29.20	39.77	465
340.000	1.244	0.80380	0.1119	26.472	17567.3	20300.3	160.899	29.64	40.02	472
350.000	1.203	0.83099	0.1078	27.484	17876.5	20701.9	162.063	30.10	40.31	479
360.000	1.166	0.85797	0.1040	28.481	18189.5	21106.6	163.204	30.58	40.64	485
370.000	1.136	0.88476	0.1005	29.467	18506.7	21514.9	164.322	31.08	41.01	492
380.000	1.097	0.91139	0.0973	30.442	18828.2	21926.9	165.421	31.59	41.41	499
390.000	1.066	0.93780	0.0943	31.407	19154.4	22343.1	166.502	32.12	41.83	505
400.000	1.037	0.96420	0.0915	32.364	19485.3	22763.6	167.567	32.66	42.27	511
420.000	0.984	1.01651	0.0863	34.253	20162.2	23618.4	169.652	33.77	43.21	523
440.000	0.936	1.05839	0.0818	36.114	20859.9	24432.5	171.685	34.90	44.21	534
460.000	0.893	1.11993	0.0777	37.953	21579.1	25386.8	173.672	36.05	45.23	545
480.000	0.854	1.17116	0.0741	39.771	22319.9	26301.9	175.619	37.19	46.27	555
500.000	0.818	1.22213	0.0708	41.572	23082.6	27237.9	177.530	38.33	47.33	566

METHANE ISOBAR AT P = 36.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
91.597	28.218	0.03544	20.6083	254.874	3483.1	3610.6	63.028	33.36	52.53	1582
95.000	27.936	0.03579	19.7568	242.193	3654.0	3782.8	69.960	33.26	52.88	1549
100.000	27.527	0.03633	18.5628	224.040	3910.3	4041.1	72.691	33.35	53.65	1499
105.000	27.109	0.03689	17.4283	206.276	4173.6	4306.4	75.329	33.43	54.47	1447
110.000	26.681	0.03748	16.3485	189.051	4442.7	4577.6	77.880	33.37	55.21	1390
115.000	26.243	0.03811	15.3184	172.465	4716.3	4853.5	80.349	33.13	55.85	1346
120.000	25.792	0.03877	14.3326	156.574	4993.6	5133.1	82.738	32.78	56.44	1290
125.000	25.327	0.03948	13.3865	141.407	5274.2	5416.4	85.055	32.39	57.08	1246
130.000	24.845	0.04025	12.4755	126.963	5558.4	5703.3	87.308	32.03	57.85	1195
135.000	24.344	0.04108	11.5950	113.218	5847.0	5994.8	89.509	31.78	58.83	1143
140.000	23.820	0.04198	10.7411	100.134	6140.8	6291.9	91.670	31.63	59.05	1089
145.000	23.269	0.04298	9.9094	87.658	6441.2	6595.9	93.803	31.55	61.55	1032
150.000	22.687	0.04408	9.0954	75.734	6749.2	6907.9	95.918	31.46	63.29	975
155.000	22.065	0.04532	8.2939	64.302	7066.2	7229.3	98.026	31.25	65.31	915
160.000	21.393	0.04675	7.4983	53.367	7393.5	7561.7	100.136	30.87	67.74	854
165.000	20.651	0.04842	6.6994	42.699	7733.8	7908.1	102.267	30.31	70.98	789
170.000	19.810	0.05048	5.8830	32.436	8092.6	8274.3	104.454	29.73	75.95	719
175.000	18.809	0.05317	5.0228	22.468	8483.1	8674.5	106.771	29.93	85.48	632
180.000	17.491	0.05717	4.0544	12.673	8940.1	9145.9	109.425	30.37	106.68	527
182.781	16.423	0.06089	3.3868	7.089	9262.3	9481.5	111.274	31.28	140.93	400
182.781	4.436	0.22532	0.5691	2.465	12154.4	12965.6	130.339	34.35	156.24	264
185.000	4.651	0.24688	0.4946	3.609	12360.3	13249.0	131.881	32.11	108.55	275
190.000	3.551	0.28158	0.4691	5.418	12681.9	13635.6	134.265	30.05	76.59	293
195.000	3.238	0.30888	0.3597	6.810	12932.5	14044.5	136.078	29.04	64.39	307
200.000	3.006	0.33266	0.3253	7.995	13150.9	14348.4	137.617	28.41	57.77	318
205.000	2.823	0.35420	0.2992	9.050	13350.4	14625.5	138.986	27.98	53.42	323
210.000	2.672	0.37427	0.2783	10.014	13537.4	14884.7	140.235	27.68	50.43	337
215.000	2.543	0.39323	0.2611	10.910	13715.5	15131.1	141.395	27.45	48.22	346
220.000	2.431	0.41134	0.2465	11.753	13887.0	15357.8	142.483	27.29	46.53	353
225.000	2.332	0.42876	0.2339	12.553	14053.5	15597.0	143.513	27.17	45.20	361
230.000	2.244	0.44563	0.2229	13.319	14216.0	15820.2	144.495	27.10	44.13	368
235.000	2.164	0.46202	0.2131	14.054	14375.4	16038.6	145.434	27.05	43.26	374
240.000	2.092	0.47801	0.2044	14.765	14532.3	16253.1	146.337	27.03	42.54	381
245.000	2.026	0.49366	0.1965	15.453	14687.1	16464.3	147.208	27.03	41.95	387
250.000	1.965	0.50901	0.1893	16.123	14840.3	16672.7	148.050	27.06	41.46	392
255.000	1.908	0.52410	0.1828	16.775	14992.2	16879.0	148.867	27.10	41.05	399
260.000	1.855	0.53895	0.1768	17.412	15143.2	17083.4	149.661	27.16	40.71	403
265.000	1.806	0.55359	0.1712	18.036	15293.3	17286.2	150.434	27.23	40.43	409
270.000	1.760	0.56805	0.1661	18.648	15442.8	17487.8	151.187	27.32	40.21	414
275.000	1.717	0.58233	0.1613	19.249	15592.0	17688.4	151.923	27.42	40.03	419
280.000	1.677	0.59647	0.1568	19.840	15740.9	17888.1	152.643	27.54	39.88	423
285.000	1.638	0.61046	0.1526	20.422	15889.6	18087.3	153.348	27.66	39.73	428
290.000	1.602	0.62432	0.1487	20.995	16038.4	18286.0	154.039	27.80	39.70	432
295.000	1.567	0.63807	0.1450	21.561	16187.3	18484.4	154.718	27.95	39.66	437
300.000	1.534	0.65171	0.1415	22.119	16336.5	18682.6	155.384	28.10	39.64	441
305.000	1.473	0.67869	0.1351	23.217	16635.8	19079.1	156.684	28.45	39.67	449
320.000	1.418	0.71532	0.1293	24.291	16937.1	19476.2	157.945	28.82	39.77	457
330.000	1.367	0.73165	0.1240	25.345	17240.9	19874.8	159.171	29.23	39.95	465
340.000	1.320	0.75771	0.1192	26.382	17547.6	20275.4	160.357	29.66	40.18	472
350.000	1.276	0.78354	0.1148	27.403	17857.8	20678.5	161.536	30.12	40.46	479
360.000	1.236	0.80916	0.1107	28.410	18171.7	21084.7	162.680	30.60	40.78	485
370.000	1.198	0.83459	0.1070	29.404	18489.7	21494.2	163.802	31.10	41.13	492
380.000	1.163	0.85995	0.1035	30.387	18812.0	21907.5	164.904	31.61	41.52	499
390.000	1.130	0.88497	0.1003	31.359	19138.8	22324.7	165.988	32.14	41.94	505
400.000	1.099	0.90994	0.0972	32.322	19470.5	22746.3	167.055	32.68	42.37	511
420.000	1.042	0.95953	0.0917	34.223	20148.6	23602.9	169.145	33.79	43.30	523
440.000	0.991	1.00870	0.0869	36.096	20847.4	24478.7	171.181	34.92	44.28	534
460.000	0.946	1.05751	0.0825	37.943	21567.5	25374.5	173.172	36.06	45.30	545
480.000	0.904	1.10602	0.0786	39.770	22309.2	26290.8	175.122	37.21	46.34	556
500.000	0.866	1.15427	0.0751	41.579	23072.7	27228.0	177.035	38.34	47.38	566

METHANE ISOBAR AT P = 38.0 BAR

T	DEN	VOL	DP/DT	OP/00	E	H	S	CV	CP	W
OEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
91.648	28.222	0.03543	20.6020	255.132	3483.7	3518.4	63.037	33.37	52.51	1582
95.000	27.946	0.03578	19.7645	242.657	3652.0	3738.0	69.939	33.28	52.85	1550
100.000	27.536	0.03632	18.5724	224.542	3908.2	4046.2	72.669	33.37	53.63	1500
105.000	27.116	0.03688	17.4396	206.811	4171.3	4311.4	75.306	33.45	54.44	1444
110.000	26.692	0.03746	16.3615	189.615	4440.1	4582.4	77.856	33.38	55.13	1393
115.000	26.255	0.03819	15.3331	173.054	4713.4	4858.1	80.323	33.15	55.81	1343
120.000	25.805	0.03875	14.3491	157.187	4990.3	5137.6	82.711	32.80	56.40	1290
125.000	25.341	0.03946	13.4049	142.043	5270.6	5420.6	85.026	32.40	57.03	1243
130.000	24.861	0.04022	12.4958	127.621	5554.4	5707.3	87.277	32.05	57.73	1193
135.000	24.361	0.04105	11.6176	113.900	5842.4	5998.4	89.475	31.60	58.75	1147
140.000	23.840	0.04195	10.7661	100.842	6135.7	6295.1	91.633	31.65	59.90	1091
145.000	23.292	0.04293	9.9372	88.395	6435.3	6598.4	93.762	31.57	61.42	1035
150.000	22.713	0.04403	9.1264	76.504	6742.4	6909.7	95.872	31.47	63.13	976
155.000	22.096	0.04526	8.3289	65.112	7058.2	7230.2	97.973	31.27	65.04	913
160.000	21.430	0.04666	7.5383	54.166	7384.0	7561.3	100.075	30.88	67.43	853
165.000	20.698	0.04831	6.7462	43.618	7722.1	7905.7	102.195	30.32	70.50	795
170.000	19.871	0.05032	5.9397	33.432	8077.7	8258.9	104.363	29.72	75.15	725
175.000	18.896	0.05232	5.0959	23.573	8462.4	8630.5	106.647	29.90	83.83	642
180.000	17.642	0.05668	4.1631	13.968	8905.9	9121.3	109.225	30.24	102.00	542
184.469	15.857	0.05330	3.0861	5.215	9436.6	9570.3	112.268	31.92	135.87	411
184.469	4.860	0.20493	0.6417	1.985	12062.6	12841.3	123.428	35.50	136.20	262
185.000	4.726	0.21158	0.6102	2.344	12132.7	12936.7	129.945	34.45	166.01	269
190.000	3.952	0.25307	0.4688	4.591	12550.2	13511.9	133.017	30.83	89.07	260
195.000	3.546	0.29198	0.4029	6.148	12832.4	13913.9	135.054	29.50	70.44	302
200.000	3.266	0.31621	0.3600	7.431	13067.8	14231.4	136.713	28.73	51.43	319
205.000	3.051	0.32781	0.3285	8.554	13278.4	14524.1	138.159	28.23	36.02	329
210.000	2.876	0.34769	0.3039	9.570	13473.3	14794.5	139.462	27.87	52.37	335
215.000	2.730	0.36633	0.2839	10.507	13657.5	15049.5	140.662	27.61	49.75	344
220.000	2.604	0.38433	0.2672	11.384	13833.8	15293.1	141.782	27.43	47.77	352
225.000	2.494	0.40039	0.2529	12.214	14004.2	15528.0	142.838	27.29	46.24	359
230.000	2.396	0.41735	0.2405	13.004	14170.0	15756.0	143.840	27.20	45.01	366
235.000	2.308	0.43323	0.2295	13.761	14332.2	15978.5	144.798	27.14	44.02	373
240.000	2.229	0.44869	0.2198	14.491	14491.6	16196.6	145.716	27.11	43.21	379
245.000	2.156	0.46378	0.2110	15.197	14648.6	16410.9	146.600	27.11	42.55	385
250.000	2.090	0.47850	0.2031	15.882	14803.7	16622.2	147.453	27.13	41.99	391
255.000	2.028	0.49308	0.1958	16.548	14957.3	16831.0	148.280	27.16	41.53	397
260.000	1.971	0.50735	0.1892	17.199	15109.8	17037.7	149.083	27.22	41.15	403
265.000	1.918	0.52140	0.1831	17.835	15261.3	17242.6	149.864	27.29	40.84	409
270.000	1.866	0.53527	0.1775	18.458	15412.1	17446.1	150.625	27.37	40.58	415
275.000	1.822	0.54896	0.1723	19.069	15562.4	17648.5	151.357	27.47	40.37	421
280.000	1.778	0.56250	0.1674	19.670	15712.4	17849.9	152.093	27.58	40.20	427
285.000	1.736	0.57589	0.1628	20.261	15862.2	18050.6	152.803	27.71	40.07	433
290.000	1.697	0.58916	0.1585	20.843	16011.9	18250.7	153.499	27.84	39.98	439
295.000	1.660	0.60230	0.1545	21.416	16161.7	18450.4	154.182	27.99	39.92	445
300.000	1.625	0.61533	0.1507	21.982	16311.7	18649.9	154.853	28.14	39.88	451
310.000	1.560	0.64110	0.1438	23.094	16612.5	19048.7	155.150	28.48	39.83	457
320.000	1.500	0.66652	0.1375	24.181	16915.1	19447.9	157.428	28.85	39.97	463
330.000	1.446	0.69164	0.1318	25.247	17220.1	19846.3	159.660	29.26	40.12	469
340.000	1.396	0.71648	0.1266	26.294	17527.9	20250.5	159.861	29.69	40.34	475
350.000	1.349	0.74110	0.1219	27.324	17839.0	20655.2	161.034	30.15	40.63	481
360.000	1.306	0.76550	0.1175	28.340	18153.9	21062.7	162.182	30.63	40.91	487
370.000	1.266	0.78971	0.1135	29.343	18472.7	21473.6	163.307	31.12	41.26	493
380.000	1.229	0.81370	0.1098	30.333	18795.7	21888.0	164.413	31.64	41.64	499
390.000	1.194	0.83766	0.1063	31.313	19123.3	22306.4	165.499	32.17	42.04	505
400.000	1.161	0.86141	0.1031	32.282	19455.6	22729.0	166.569	32.70	42.47	511
420.000	1.101	0.90656	0.0972	34.196	20135.0	23587.5	168.663	33.81	43.39	523
440.000	1.047	0.95529	0.0920	36.078	20834.8	24454.9	170.704	34.94	44.36	534
460.000	0.998	1.01167	0.0874	37.936	21555.9	25362.2	172.698	36.08	45.37	545
480.000	0.954	1.06774	0.0832	39.771	22298.5	26279.9	174.651	37.23	46.40	556
500.000	0.914	1.09356	0.0795	41.587	23062.7	27218.3	176.566	38.36	47.44	566

METHANE ISOBAR AT P = 40.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	Z J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
91.699	28.226	0.03543	20.5956	255.389	3484.4	3526.1	68.045	33.39	52.50	1582
95.000	27.954	0.03577	19.7721	243.119	3650.1	3793.2	69.918	33.30	52.85	1551
100.000	27.545	0.03630	18.5818	225.043	3906.1	4051.3	72.647	33.38	53.61	1501
105.000	27.128	0.03696	17.4508	207.345	4168.9	4316.4	75.283	33.46	54.42	1450
110.000	26.702	0.03745	16.3744	190.177	4437.5	4537.3	77.832	33.40	55.15	1399
115.000	26.266	0.03807	15.3477	173.642	4710.5	4852.8	80.297	33.17	55.78	1349
120.000	25.818	0.03873	14.3655	157.798	4987.1	5142.1	82.684	32.81	56.36	1300
125.000	25.355	0.03944	13.4231	142.677	5267.0	5424.8	84.996	32.42	56.97	1250
130.000	24.876	0.04020	12.5160	128.278	5550.4	5711.2	87.245	32.07	57.72	1200
135.000	24.379	0.04102	11.6400	114.580	5837.9	6002.0	89.440	31.81	58.67	1148
140.000	23.859	0.04191	10.7908	101.547	6130.6	6298.2	91.595	31.57	59.87	1094
145.000	23.315	0.04289	9.9647	89.128	6429.5	6601.0	93.720	31.58	61.30	1038
150.000	22.739	0.04398	9.1571	77.271	6735.7	6911.6	95.826	31.49	62.97	981
155.000	22.127	0.04519	8.3635	65.917	7050.4	7231.2	97.921	31.28	64.87	923
160.000	21.467	0.04658	7.5778	55.017	7374.7	7551.0	100.015	30.89	67.13	863
165.000	20.743	0.04821	6.7922	44.527	7710.7	7903.6	102.123	30.32	70.05	801
170.000	19.930	0.05018	5.9949	34.415	8063.2	8263.9	104.274	29.72	74.41	733
175.000	18.979	0.05269	5.1661	24.656	8442.5	8653.3	106.528	29.87	82.46	651
180.000	17.779	0.05625	4.2634	15.211	8874.4	9039.4	109.041	30.14	98.13	555
185.000	15.926	0.06281	3.1361	5.815	9440.1	9631.3	112.281	31.07	135.12	421
186.089	15.225	0.06568	2.7848	3.586	9620.8	9883.5	113.317	32.84	206.43	375
186.089	5.393	0.13541	0.7287	1.507	11950.1	12631.7	128.411	37.00	252.45	253
190.000	4.436	0.22544	0.5443	3.687	12393.0	13294.7	131.622	31.86	109.45	281
195.000	3.891	0.25698	0.4527	5.455	12721.7	13749.7	133.987	30.03	78.40	233
200.000	3.546	0.28202	0.3984	6.851	12979.0	14107.0	135.797	29.09	55.94	311
205.000	3.292	0.30331	0.3603	8.050	13202.7	14418.0	137.333	28.49	59.01	322
210.000	3.090	0.32350	0.3314	9.121	13406.8	14701.2	138.693	26.07	54.55	332
215.000	2.924	0.34201	0.3082	10.102	13597.6	14965.7	139.943	27.78	51.42	341
220.000	2.783	0.35938	0.2890	11.015	13779.2	15216.8	141.098	27.57	49.11	350
225.000	2.660	0.37596	0.2728	11.874	13953.9	15457.7	142.181	27.41	47.34	353
230.000	2.552	0.39130	0.2588	12.690	14123.2	15690.8	143.205	27.30	45.95	365
235.000	2.455	0.40731	0.2465	13.470	14288.4	15917.6	144.181	27.23	44.83	372
240.000	2.368	0.42229	0.2357	14.219	14450.3	16139.4	145.115	27.20	43.92	378
245.000	2.289	0.43689	0.2260	14.942	14609.5	16357.1	146.012	27.18	43.17	385
250.000	2.216	0.45117	0.2172	15.643	14765.7	16571.3	146.878	27.19	42.54	391
255.000	2.156	0.46517	0.2093	16.324	14922.1	16782.7	147.715	27.23	42.03	395
260.000	2.088	0.47832	0.2020	16.988	15076.1	16991.8	148.527	27.27	41.60	402
265.000	2.031	0.49245	0.1953	17.636	15229.1	17198.9	149.316	27.34	41.25	407
270.000	1.977	0.50579	0.1892	18.271	15381.2	17404.3	150.084	27.42	40.95	412
275.000	1.927	0.51894	0.1835	18.892	15532.7	17608.5	150.833	27.52	40.71	417
280.000	1.880	0.53195	0.1782	19.503	15683.8	17811.6	151.555	27.63	40.52	422
285.000	1.836	0.54480	0.1732	20.103	15834.6	18013.8	152.281	27.75	40.37	427
290.000	1.794	0.55752	0.1686	20.693	15985.3	18215.4	152.982	27.88	40.26	432
295.000	1.754	0.57013	0.1642	21.275	16135.9	18416.4	153.670	28.02	40.18	435
300.000	1.716	0.58262	0.1601	21.848	16286.7	18617.2	154.345	28.18	40.13	440
310.000	1.647	0.60770	0.1526	22.974	16589.1	19018.3	155.660	28.51	40.10	449
320.000	1.583	0.63162	0.1458	24.074	16893.0	19419.5	156.934	28.89	40.15	457
330.000	1.525	0.65565	0.1397	25.151	17199.2	19821.8	158.171	29.29	40.30	464
340.000	1.472	0.67940	0.1342	26.208	17508.1	20225.7	159.377	29.72	40.50	472
350.000	1.423	0.70291	0.1291	27.248	17820.3	20631.9	160.555	30.17	40.75	479
360.000	1.377	0.72622	0.1244	28.273	18136.0	21040.9	161.707	30.65	41.05	486
370.000	1.335	0.74934	0.1201	29.284	18455.6	21453.0	162.836	31.15	41.38	492
380.000	1.295	0.77229	0.1161	30.281	18779.5	21868.6	163.944	31.66	41.75	499
390.000	1.258	0.79509	0.1124	31.266	19107.8	22288.1	165.034	32.19	42.15	505
400.000	1.223	0.81775	0.1090	32.244	19440.8	22711.7	166.106	32.73	42.57	511
420.000	1.159	0.85270	0.1027	34.169	20121.3	23572.1	168.205	33.83	43.49	523
440.000	1.102	0.90724	0.0972	35.063	20822.3	24451.2	170.250	34.96	44.44	535
460.000	1.051	0.95142	0.0922	37.929	21544.3	25350.0	172.247	36.10	45.44	546
480.000	1.005	0.99530	0.0878	39.772	22287.7	26268.9	174.203	37.24	46.46	556
500.000	0.963	1.03892	0.0838	41.596	23052.8	27208.5	176.120	38.38	47.49	565

METHANE ISOBAR AT P = 44.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	OP/DT BAR/K	OP/DO BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W J/SEC
91.801	28.234	0.03542	20.5829	255.902	3485.7	36+1.5	68.662	33.42	52.43	1583
95.000	27.971	0.03575	19.7873	244.040	3646.2	3803.5	69.877	33.33	52.81	1553
100.000	27.562	0.03623	18.0006	226.041	3901.8	4061.4	72.604	33.42	53.55	1503
105.000	27.147	0.03634	17.4731	208.408	4164.2	4326.3	75.237	33.50	54.37	1452
110.000	26.723	0.037+2	16.4001	191.298	4432.3	4597.0	77.783	33.43	55.09	1402
115.000	26.289	0.03804	15.3768	174.814	4704.8	4872.1	80.246	33.20	55.71	1352
120.000	25.843	0.03870	14.3981	159.017	4980.8	5151.0	82.629	32.85	56.27	1303
125.000	25.383	0.03940	13.4593	143.940	5259.9	5433.3	84.938	32.45	56.87	1254
130.000	24.907	0.04015	12.5561	129.585	5542.4	5719.1	87.182	32.10	57.63	1204
135.000	24.413	0.04096	11.6843	115.933	5829.0	6009.2	89.372	31.85	58.52	1152
140.000	23.898	0.04134	10.8398	102.949	6120.5	6304.6	91.521	31.70	59.64	1099
145.000	23.359	0.04231	10.0190	90.586	6418.0	6606.3	93.639	31.01	60.06	1044
150.000	22.791	0.04388	9.2176	78.791	6722.5	6915.6	95.735	31.52	62.66	983
155.000	22.167	0.04507	8.4314	67.512	7035.0	7233.3	97.818	31.31	64.40	931
160.000	21.538	0.04643	7.6550	56.701	7356.5	7550.7	99.897	30.91	66.56	872
165.000	20.831	0.04801	6.8815	46.319	7688.6	7899.8	101.984	30.33	69.21	812
170.000	20.043	0.04989	6.1013	36.340	8035.2	8254.8	104.103	29.71	73.05	749
175.000	19.134	0.05226	5.2989	26.758	8405.0	8635.0	106.304	29.83	79.98	669
180.000	18.023	0.05548	4.4451	17.574	8817.9	9052.0	108.709	29.38	82.28	581
185.000	16.774	0.06070	3.6227	8.752	9320.2	9587.3	111.586	30.87	124.25	469
189.136	13.551	0.07380	2.1436	1.006	10622.4	10387.1	115.852	37.03	507.54	293
189.136	6.839	0.14621	0.9841	0.566	11612.8	12256.1	125.737	42.92	734.23	240
190.000	6.056	0.16511	0.8206	1.445	11884.3	12610.8	127.608	36.62	278.05	261
195.000	4.745	0.21073	0.5824	3.966	12453.6	13380.8	131.616	31.44	105.53	239
200.000	4.188	0.23880	0.4902	5.644	12778.7	13829.5	133.830	29.91	78.48	304
205.000	3.823	0.25156	0.4332	7.016	13038.1	14189.0	135.606	29.06	66.53	317
210.000	3.552	0.26152	0.3926	8.210	13204.8	14503.5	137.182	28.51	59.75	327
215.000	3.337	0.26959	0.3613	9.285	13471.7	14790.4	138.532	28.13	55.29	337
220.000	3.159	0.27601	0.3363	10.273	13655.5	15050.6	139.765	27.86	52.13	340
225.000	3.007	0.28258	0.3155	11.195	13849.7	15313.1	140.909	27.66	49.79	354
230.000	2.875	0.28783	0.2978	12.064	14050.8	15557.3	141.983	27.52	47.93	362
235.000	2.759	0.29249	0.2826	12.890	14198.5	15793.5	142.999	27.42	46.55	369
240.000	2.655	0.29667	0.2692	13.680	14366.0	16023.3	143.967	27.36	45.41	376
245.000	2.561	0.30044	0.2574	14.440	14530.0	16248.0	144.893	27.34	44.47	383
250.000	2.476	0.30386	0.2468	15.173	14691.3	16408.3	145.783	27.33	43.70	389
255.000	2.398	0.30698	0.2373	15.884	14850.5	16585.2	146.642	27.35	43.07	399
260.000	2.326	0.30984	0.2286	16.574	15007.9	16839.2	147.473	27.39	42.54	401
265.000	2.260	0.31247	0.2206	17.247	15163.8	17110.7	148.279	27.45	42.03	409
270.000	2.198	0.31490	0.2134	17.904	15318.7	17320.2	149.062	27.52	41.73	411
275.000	2.141	0.31714	0.2066	18.547	15472.7	17528.1	149.825	27.61	41.43	416
280.000	2.087	0.31922	0.2004	19.176	15625.1	17734.6	150.570	27.72	41.13	421
285.000	2.036	0.32114	0.1946	19.795	15779.0	17940.0	151.297	27.83	40.98	426
290.000	1.988	0.32293	0.1892	20.402	15931.0	18144.5	152.008	27.96	40.83	431
295.000	1.943	0.32460	0.1841	21.000	16084.1	18348.4	152.705	28.10	40.71	435
300.000	1.901	0.32610	0.1793	21.589	16236.6	18551.7	153.388	28.25	40.62	440
310.000	1.822	0.32835	0.1706	22.742	16442.0	18957.4	154.719	28.58	40.54	443
320.000	1.750	0.33140	0.1629	23.866	16648.7	19352.9	156.006	28.95	40.50	457
330.000	1.685	0.33353	0.1558	24.966	17157.4	19758.9	157.255	29.35	40.65	460
340.000	1.625	0.33539	0.1495	26.044	17468.5	20176.2	158.471	29.77	40.82	472
350.000	1.570	0.33701	0.1437	27.103	17782.6	20585.5	159.658	30.23	41.04	479
360.000	1.519	0.33842	0.1384	28.145	18100.2	20997.2	160.818	30.70	41.32	480
370.000	1.471	0.33964	0.1335	29.172	18421.5	21411.9	161.954	31.20	41.63	483
380.000	1.427	0.34069	0.1289	30.185	18747.0	21830.0	163.069	31.71	41.93	489
390.000	1.386	0.34159	0.1248	31.185	19076.7	22251.7	164.164	32.23	42.37	505
400.000	1.347	0.34235	0.1208	32.174	19411.0	22677.4	165.242	32.77	42.77	512
420.000	1.276	0.34352	0.1138	34.122	20094.1	23541.5	167.350	33.87	43.65	524
440.000	1.213	0.34426	0.1076	36.036	20797.2	24423.9	169.402	35.00	44.53	535
460.000	1.157	0.34465	0.1020	37.920	21521.1	25325.6	171.406	36.14	45.58	540
480.000	1.105	0.34474	0.0971	39.779	22266.3	26247.2	173.367	37.28	46.59	557
500.000	1.059	0.34458	0.0926	41.617	23032.9	27189.1	175.289	38.41	47.61	567

METHANE ISOBAR AT P = 48.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	M/SEC
91.902	28.241	0.03541	20.5702	256.413	3487.0	3656.9	68.079	33.44	52.40	1533
95.000	27.987	0.03573	19.8023	244.956	3642.4	3813.9	69.835	33.36	52.73	1554
100.000	27.580	0.03626	18.6193	227.033	3897.6	4071.6	72.561	33.45	53.52	1505
105.000	27.166	0.03681	17.4951	209.466	4159.6	4336.3	75.192	33.53	54.32	1454
110.000	26.744	0.03739	16.4255	192.413	4427.2	4606.7	77.736	33.47	55.03	1404
115.000	26.312	0.03801	15.4055	175.980	4699.1	4881.5	80.196	33.23	55.64	1355
120.000	25.868	0.03866	14.4303	160.230	4974.5	5160.0	82.575	32.88	56.19	1305
125.000	25.411	0.03935	13.4952	145.196	5252.9	5441.8	84.880	32.49	56.77	1253
130.000	24.938	0.04010	12.5958	130.884	5534.6	5727.1	87.120	32.14	57.47	1203
135.000	24.448	0.04090	11.7280	117.277	5820.2	6016.5	89.305	31.88	58.37	1157
140.000	23.937	0.04178	10.8881	104.340	6110.5	6311.0	91.448	31.73	59.49	1104
145.000	23.403	0.04273	10.0724	92.030	6406.7	6611.8	93.558	31.65	60.83	1050
150.000	22.841	0.04378	9.2770	80.296	6709.6	6919.7	95.646	31.55	62.30	995
155.000	22.245	0.04495	8.4978	69.088	7020.0	7235.8	97.718	31.33	64.07	938
160.000	21.608	0.04628	7.7300	58.359	7338.6	7560.9	99.782	30.93	66.02	881
165.000	20.910	0.04781	6.9677	48.076	7667.3	7896.8	101.849	30.35	68.44	822
170.000	20.150	0.04953	6.2028	38.219	8008.7	8246.9	103.939	29.71	71.86	753
175.000	19.276	0.05187	5.4230	28.788	8370.2	8619.2	106.095	29.79	77.89	685
180.000	18.237	0.05483	4.6075	19.809	8767.8	9031.0	108.414	29.86	87.86	603
185.000	16.873	0.05927	3.7110	11.328	9231.4	9515.9	111.070	30.44	109.44	504
190.000	14.512	0.06891	2.5584	3.278	9897.3	10228.1	114.863	33.01	213.16	363
195.000	6.043	0.15548	0.7927	2.317	12063.4	12857.7	128.548	33.82	178.64	275
200.000	4.989	0.21044	0.6112	4.384	12535.6	13437.7	131.792	30.97	39.44	230
205.000	4.441	0.22517	0.5220	5.956	12850.9	13931.7	133.936	29.74	77.29	311
210.000	4.069	0.24576	0.4640	7.286	13108.9	14288.5	135.657	29.00	60.49	323
215.000	3.788	0.26406	0.4218	8.462	13336.4	14633.6	137.140	28.51	60.01	333
220.000	3.563	0.28069	0.3890	9.531	13544.9	14882.2	138.467	28.17	55.69	343
225.000	3.375	0.29627	0.3625	10.518	13740.4	15102.5	139.682	27.92	52.53	351
230.000	3.215	0.31101	0.3403	11.443	13925.5	15419.3	140.811	27.74	50.20	359
235.000	3.076	0.32503	0.3215	12.317	14105.6	15656.0	141.872	27.62	48.45	367
240.000	2.953	0.33863	0.3052	13.149	14279.2	15904.0	142.877	27.54	47.03	374
245.000	2.843	0.35173	0.2909	13.940	14448.5	16136.8	143.834	27.49	45.88	381
250.000	2.744	0.36445	0.2782	14.712	14614.4	16353.7	144.751	27.47	44.94	387
255.000	2.654	0.37686	0.2668	15.452	14777.5	16586.4	145.633	27.48	44.10	393
260.000	2.571	0.38833	0.2565	16.170	14938.5	16805.0	146.484	27.51	43.52	399
265.000	2.495	0.40087	0.2472	16.868	15097.6	17021.8	147.308	27.56	42.98	403
270.000	2.424	0.41255	0.2386	17.547	15255.3	17235.0	148.107	27.62	42.54	410
275.000	2.358	0.42403	0.2308	18.211	15412.0	17447.3	148.884	27.71	42.17	418
280.000	2.297	0.43534	0.2235	18.861	15567.7	17657.3	149.641	27.80	41.80	421
285.000	2.240	0.44649	0.2168	19.497	15722.8	17866.0	150.380	27.92	41.61	426
290.000	2.186	0.45751	0.2105	20.122	15877.5	18073.0	151.102	28.04	41.41	430
295.000	2.135	0.46840	0.2047	20.735	16031.9	18280.2	151.808	28.18	41.25	435
300.000	2.087	0.47917	0.1992	21.339	16186.1	18480.1	152.501	28.32	41.13	440
310.000	1.998	0.50040	0.1892	22.520	16494.7	18896.6	153.847	28.65	40.99	443
320.000	1.918	0.52127	0.1803	23.669	16804.2	19306.3	155.147	29.01	40.95	450
330.000	1.846	0.54182	0.1724	24.791	17115.3	19716.1	156.408	29.40	41.01	460
340.000	1.779	0.56210	0.1651	25.890	17428.7	20128.8	157.634	29.83	41.14	472
350.000	1.718	0.58214	0.1586	26.967	17744.9	20539.2	158.830	30.28	41.34	479
360.000	1.661	0.60197	0.1526	28.026	18064.4	20953.8	159.998	30.75	41.53	485
370.000	1.609	0.62161	0.1471	29.068	18387.4	21371.1	161.141	31.24	41.88	493
380.000	1.560	0.64108	0.1420	30.096	18714.4	21791.0	162.262	31.75	42.21	499
390.000	1.514	0.66039	0.1373	31.109	19045.6	22215.5	163.363	32.27	42.58	506
400.000	1.472	0.67957	0.1329	32.111	19381.3	22643.3	164.446	32.81	42.97	512
420.000	1.394	0.71757	0.1250	34.082	20066.8	23511.1	166.563	33.91	43.83	524
440.000	1.324	0.75515	0.1181	36.015	20772.1	24396.8	168.623	35.03	44.75	535
460.000	1.262	0.79238	0.1119	37.917	21498.0	25301.4	170.634	36.17	45.71	547
480.000	1.206	0.82931	0.1064	39.791	22244.9	26225.6	172.600	37.31	46.71	557
500.000	1.155	0.86598	0.1015	41.643	23033.1	27169.8	174.527	38.44	47.72	565

METHANE ISOBAR AT P = 52.0 BAR

T	OEN	VOL	OP/OT	OP/OO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
92.000	28.249	0.03540	20.5576	256.322	3488.3	3672.4	68.095	33.47	52.44	1584
95.000	28.003	0.03571	19.8171	245.867	3638.6	3824.3	69.794	33.40	52.75	1555
100.000	27.598	0.03624	18.6377	228.020	3893.4	4031.8	72.518	33.48	53.48	1507
105.000	27.185	0.03678	17.5170	210.519	4155.0	4346.3	75.147	33.56	54.27	1457
110.000	26.765	0.03736	16.4507	193.523	4422.1	4616.4	77.688	33.50	54.97	1407
115.000	26.335	0.03797	15.4341	177.140	4693.4	4890.9	80.145	33.27	55.57	1353
120.000	25.893	0.03862	14.4622	161.436	4968.2	5169.0	82.521	32.91	56.10	1311
125.000	25.438	0.03931	13.5306	146.446	5245.9	5450.4	84.823	32.52	56.67	1261
130.000	24.968	0.04005	12.6349	132.176	5526.8	5735.1	87.058	32.17	57.36	1212
135.000	24.482	0.04085	11.7712	118.012	5811.4	6023.9	89.239	31.91	58.23	1161
140.000	23.975	0.04171	10.9358	105.722	6100.7	6317.6	91.375	31.76	59.31	1103
145.000	23.446	0.04265	10.1250	93.463	6395.5	6617.3	93.479	31.08	60.61	1055
150.000	22.890	0.04369	9.3352	81.766	6696.9	6924.0	95.558	31.56	62.03	1001
155.000	22.303	0.04484	8.5627	70.644	7005.3	7238.5	97.619	31.36	63.73	945
160.000	21.675	0.04614	7.8031	59.994	7321.5	7551.4	99.670	30.96	65.52	893
165.000	20.997	0.04762	7.0512	49.802	7646.7	7874.3	101.718	30.36	67.72	832
170.000	20.252	0.04938	6.3006	40.054	7983.3	8210.1	103.783	29.71	70.79	771
175.000	19.413	0.05151	5.5399	30.755	8337.6	8605.4	105.898	29.77	76.13	713
180.000	18.429	0.05425	4.7555	21.945	8722.6	9004.8	108.147	29.77	84.39	623
185.000	17.194	0.05810	3.9182	13.097	9159.1	9451.5	110.649	30.17	100.31	533
190.000	15.381	0.06501	2.9539	6.126	9713.4	10051.5	113.793	31.50	145.88	421
195.000	9.341	0.13730	1.3433	0.697	11185.1	11741.8	122.540	38.78	617.65	253
200.000	6.667	0.16482	0.7822	3.111	12221.7	13078.8	123.333	32.38	139.23	283
205.000	5.181	0.11302	0.6332	4.898	12633.0	13636.7	132.090	30.53	33.05	305
210.000	4.656	0.21478	0.5487	0.365	12935.6	14052.4	134.094	29.54	75.35	313
215.000	4.285	0.23337	0.4911	7.644	13189.9	14403.4	135.747	28.92	55.85	323
220.000	4.000	0.25003	0.4481	8.794	13416.6	14715.7	137.188	28.49	59.83	339
225.000	3.768	0.26537	0.4143	9.848	13625.5	15005.4	138.485	28.19	55.80	349
230.000	3.575	0.27975	0.3867	10.829	13822.0	15276.6	139.678	27.97	52.82	357
235.000	3.409	0.29338	0.3636	11.752	14009.3	15534.8	140.788	27.81	50.57	365
240.000	3.264	0.30642	0.3438	12.626	14189.7	15713.1	141.834	27.71	48.83	372
245.000	3.135	0.31897	0.3266	13.460	14364.8	16023.5	142.825	27.64	47.40	373
250.000	3.020	0.33113	0.3115	14.260	14535.7	16257.5	143.771	27.61	46.25	383
255.000	2.916	0.34234	0.2980	15.031	14703.1	16486.4	144.677	27.61	45.32	392
260.000	2.821	0.35404	0.2859	15.776	14867.9	16711.0	145.550	27.62	44.55	393
265.000	2.734	0.36572	0.2750	16.498	15030.4	16932.2	146.392	27.66	43.91	404
270.000	2.654	0.37676	0.2650	17.201	15191.2	17150.3	147.208	27.72	43.33	416
275.000	2.580	0.38760	0.2559	17.886	15350.6	17356.1	147.999	27.80	42.93	415
280.000	2.511	0.39826	0.2476	18.555	15508.8	17579.8	148.769	27.89	42.55	421
285.000	2.440	0.40877	0.2398	19.210	15666.2	17791.8	149.520	28.00	42.25	425
290.000	2.386	0.41913	0.2326	19.851	15823.0	18002.4	150.253	28.12	42.01	430
295.000	2.329	0.42936	0.2260	20.481	15979.3	18212.0	150.959	28.25	41.81	435
300.000	2.275	0.43947	0.2197	21.100	16135.3	18420.6	151.670	28.39	41.65	439
310.000	2.177	0.45933	0.2084	22.308	16447.2	18835.9	153.032	28.71	41.44	443
320.000	2.088	0.47891	0.1983	23.482	16759.6	19249.9	154.346	29.07	41.35	455
330.000	2.008	0.49813	0.1893	24.626	17073.2	19663.5	155.619	29.46	41.37	464
340.000	1.934	0.51707	0.1812	25.744	17388.9	20077.6	156.856	29.88	41.47	472
350.000	1.866	0.53577	0.1738	26.840	17707.2	20493.1	158.060	30.33	41.64	473
360.000	1.804	0.55425	0.1671	27.916	18028.5	20910.0	159.236	30.80	41.86	485
370.000	1.747	0.57255	0.1609	28.973	18353.3	21330.5	160.386	31.29	42.13	493
380.000	1.693	0.59068	0.1553	30.015	18681.9	21753.4	161.514	31.80	42.45	506
390.000	1.643	0.60865	0.1500	31.042	19014.6	22179.6	162.621	32.32	42.79	503
400.000	1.596	0.62649	0.1452	32.055	19351.6	22609.4	163.709	32.85	43.17	512
420.000	1.511	0.65131	0.1364	34.046	20039.6	23431.0	165.835	33.95	44.03	524
440.000	1.435	0.69670	0.1287	36.001	20747.0	24309.9	167.903	35.07	44.93	536
460.000	1.368	0.73125	0.1219	37.919	21474.9	25277.4	169.920	36.21	45.85	547
480.000	1.306	0.75550	0.1159	39.809	22223.5	26204.2	171.892	37.34	46.83	553
500.000	1.251	0.77950	0.1104	41.674	22993.3	27150.7	173.824	38.47	47.83	568

METHANE ISOBAR AT P = 56.0 BAR

T	DEN	VOL	OP/DT	OP/DO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	M/SEC
92.105	28.257	0.03539	20.5450	257.429	3489.7	3637.8	68.112	33.50	52.42	1584
95.000	28.019	0.03569	19.8318	246.772	3634.8	3834.7	69.753	33.43	52.72	1557
100.000	27.615	0.03621	18.6559	229.002	3889.2	4092.0	72.475	33.52	53.45	1509
105.000	27.204	0.03675	17.5386	211.566	4150.4	4356.3	75.102	33.60	54.23	1459
110.000	26.786	0.03733	16.4757	194.627	4417.0	4626.1	77.641	33.53	54.92	1410
115.000	26.357	0.03794	15.4623	178.295	4687.9	4900.3	80.095	33.30	55.53	1361
120.000	25.918	0.03858	14.4938	162.637	4962.0	5178.1	82.468	32.95	56.02	1313
125.000	25.465	0.03927	13.5656	147.689	5239.1	5459.0	84.766	32.55	56.57	1265
130.000	24.999	0.04000	12.6736	133.461	5519.1	5743.2	86.997	32.20	57.24	1215
135.000	24.515	0.04079	11.8139	119.939	5802.9	6031.3	89.173	31.95	58.03	1165
140.000	24.013	0.04164	10.9827	107.093	6091.0	6324.2	91.304	31.80	59.14	1114
145.000	23.489	0.04257	10.1767	94.883	6384.6	6623.0	93.400	31.71	60.40	1061
150.000	22.939	0.04359	9.3924	83.262	6684.4	6928.5	95.471	31.61	61.81	1007
155.000	22.359	0.04473	8.6263	72.183	6990.9	7241.4	97.523	31.39	63.35	953
160.000	21.741	0.04600	7.8744	61.605	7304.8	7562.4	99.561	30.98	65.05	898
165.000	21.076	0.04745	7.1321	51.499	7626.8	7892.5	101.592	30.38	67.07	842
170.000	20.350	0.04914	6.3934	41.850	7959.0	8234.2	103.632	29.72	69.81	783
175.000	19.539	0.05118	5.6506	32.669	8306.8	8533.4	105.712	29.75	74.55	714
180.000	18.603	0.05375	4.8921	23.999	8681.2	8892.2	107.902	29.71	81.58	641
185.000	17.464	0.05726	4.0989	15.925	9097.2	9417.8	110.288	29.98	93.97	553
190.000	15.928	0.06278	3.2328	8.600	9594.4	9946.0	113.103	30.83	121.84	463
195.000	13.127	0.07618	2.1622	2.301	10354.3	10730.9	117.434	33.01	263.49	335
200.000	7.705	0.12978	1.0528	1.896	11776.1	12502.9	120.158	34.18	231.11	283
205.000	6.097	0.16402	0.7770	3.887	12372.9	13291.4	130.058	31.44	117.10	330
210.000	5.333	0.18750	0.6504	5.477	12740.8	13730.8	132.466	30.13	47.15	314
215.000	4.638	0.21670	0.5711	6.849	13030.3	14137.9	134.335	29.35	73.03	325
220.000	4.474	0.22350	0.5147	8.075	13279.6	14531.2	135.914	28.83	54.88	337
225.000	4.189	0.23874	0.4717	9.193	13504.4	14841.3	137.309	28.46	59.50	345
230.000	3.955	0.25286	0.4374	10.229	13712.8	15128.8	138.572	28.20	55.70	355
235.000	3.757	0.26615	0.4091	11.199	13909.5	15400.0	139.739	28.01	52.83	363
240.000	3.587	0.27879	0.3852	12.115	14097.6	15658.3	140.829	27.88	50.73	371
245.000	3.438	0.29090	0.3646	12.986	14279.0	15908.0	141.857	27.80	49.63	378
250.000	3.305	0.31258	0.3467	13.819	14455.2	16149.7	142.833	27.75	47.66	385
255.000	3.186	0.31389	0.3309	14.619	14627.3	16335.1	143.765	27.73	46.55	391
260.000	3.078	0.32489	0.3168	15.391	14796.1	16515.5	144.660	27.74	45.64	397
265.000	2.979	0.33563	0.3041	16.139	14962.2	16684.7	145.522	27.77	44.88	403
270.000	2.885	0.34613	0.2926	16.864	15125.2	16844.5	146.355	27.82	44.25	409
275.000	2.806	0.35643	0.2822	17.571	15288.4	17004.4	147.162	27.89	43.72	414
280.000	2.728	0.36654	0.2725	18.259	15449.3	17161.9	147.946	27.98	43.28	420
285.000	2.656	0.37649	0.2637	18.932	15609.1	17317.4	148.708	28.08	42.92	425
290.000	2.589	0.38629	0.2555	19.590	15768.0	17473.2	149.452	28.20	42.62	430
295.000	2.526	0.39595	0.2479	20.236	15926.3	17613.7	150.179	28.32	42.37	434
300.000	2.466	0.40553	0.2409	20.870	16084.2	17755.0	150.889	28.47	42.18	439
310.000	2.357	0.42427	0.2280	22.105	16399.4	18175.3	152.267	28.78	41.91	443
320.000	2.259	0.44266	0.2167	23.303	16714.7	18593.6	153.595	29.13	41.77	450
330.000	2.170	0.46073	0.2066	24.469	17031.0	19011.1	154.880	29.52	41.74	460
340.000	2.090	0.47852	0.1975	25.607	17349.0	20028.7	156.127	29.94	41.80	472
350.000	2.016	0.49607	0.1893	26.721	17669.4	20447.3	157.340	30.38	41.94	479
360.000	1.948	0.51340	0.1819	27.813	17992.6	20867.6	158.524	30.85	42.13	487
370.000	1.885	0.53055	0.1750	28.886	18319.1	21290.2	159.682	31.34	42.38	493
380.000	1.826	0.54752	0.1688	29.941	18649.3	21715.4	160.816	31.84	42.68	500
390.000	1.772	0.56435	0.1630	30.981	18983.5	22143.8	161.929	32.36	43.01	507
400.000	1.721	0.58103	0.1576	32.007	19321.9	22575.7	163.022	32.89	43.37	513
420.000	1.629	0.61404	0.1479	34.021	20012.4	23451.0	165.137	33.99	44.17	525
440.000	1.540	0.64604	0.1395	35.993	20722.0	24343.2	167.232	35.11	45.06	537
460.000	1.473	0.67883	0.1321	37.928	21451.8	25253.6	169.255	36.24	45.99	548
480.000	1.407	0.71084	0.1254	39.832	22202.2	26182.9	171.233	37.38	46.95	559
500.000	1.347	0.74254	0.1195	41.709	22973.6	27131.8	173.170	38.50	47.94	569

METHANE ISO3AR AT P = 60.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W M/SEC
92.206	28.265	0.03538	20.5325	257.933	3491.0	3703.3	63.129	33.53	52.40	1585
95.000	28.036	0.03567	19.8463	247.671	3631.0	3845.1	69.712	33.46	52.69	1559
100.000	27.632	0.03619	18.6740	229.979	3885.1	4102.3	72.432	33.55	53.41	1511
105.000	27.223	0.03673	17.5601	212.609	4145.9	4366.3	75.057	33.63	54.18	1461
110.000	26.806	0.03731	16.5004	195.726	4412.0	4635.9	77.594	33.57	54.86	1412
115.000	26.380	0.03791	15.4903	179.444	4682.3	4909.8	80.045	33.33	55.43	1364
120.000	25.942	0.03855	14.5251	163.831	4955.9	5187.2	82.415	32.98	55.94	1316
125.000	25.492	0.03923	13.6063	148.926	5232.2	5467.6	84.710	32.59	56.48	1268
130.000	25.028	0.03995	12.7119	134.738	5511.6	5751.3	86.937	32.24	57.13	1220
135.000	24.556	0.04074	11.8560	121.257	5794.4	6038.8	89.108	31.98	57.95	1170
140.000	24.050	0.04158	11.0290	108.455	6081.5	6331.0	91.233	31.83	58.98	1119
145.000	23.530	0.04250	10.2277	96.292	6373.9	6628.8	93.323	31.74	59.13	1067
150.000	22.980	0.04350	9.4486	84.724	6672.1	6933.2	95.386	31.64	59.55	1014
155.000	22.413	0.04462	8.6886	73.705	6976.9	7244.6	97.428	31.42	59.62	960
160.000	21.805	0.04580	7.9440	63.196	7288.5	7563.6	99.454	31.00	54.61	900
165.000	21.153	0.04727	7.2106	53.169	7607.5	7891.1	101.469	30.40	56.46	851
170.000	20.444	0.04891	6.4833	43.611	7935.7	8229.2	103.487	29.72	58.93	794
175.000	19.688	0.05087	5.7559	34.535	8277.6	8582.9	105.535	29.73	73.18	725
180.000	18.763	0.05330	5.0194	25.984	8643.0	8952.7	107.675	29.66	79.23	653
185.000	17.700	0.05650	4.2609	18.048	9042.6	9331.6	109.969	29.84	89.24	581
190.000	16.540	0.06120	3.4587	10.876	9503.0	9870.2	112.574	30.43	108.63	492
195.000	14.307	0.06990	2.5646	4.731	10102.9	10522.3	115.959	31.93	104.38	390
200.000	10.137	0.08854	1.4900	1.681	11183.9	11775.7	122.296	34.12	231.19	299
205.000	7.272	0.11751	0.9696	2.982	12055.3	12830.3	127.759	32.39	154.61	293
210.000	6.125	0.13325	0.7742	4.659	12520.3	13439.9	130.747	30.76	102.75	312
215.000	5.457	0.13320	0.6041	6.103	12856.0	13955.0	132.833	29.80	31.93	323
220.000	4.992	0.21032	0.5900	7.391	13133.0	14335.0	134.638	29.17	70.75	334
225.000	4.639	0.21554	0.5353	8.565	13376.7	14699.9	136.143	28.74	53.72	344
230.000	4.357	0.22950	0.4928	9.650	13598.8	14975.8	137.488	28.43	58.92	353
235.000	4.123	0.24252	0.4583	10.664	13806.2	15261.3	138.716	28.21	55.44	361
240.000	3.924	0.25483	0.4296	11.619	14002.6	15531.6	139.855	28.06	52.82	369
245.000	3.751	0.26656	0.4052	12.525	14191.0	15790.4	140.922	27.95	50.78	377
250.000	3.599	0.27785	0.3841	13.390	14373.0	16040.2	141.931	27.89	49.15	384
255.000	3.463	0.28674	0.3657	14.220	14550.1	16292.5	142.891	27.86	47.85	390
260.000	3.341	0.29931	0.3493	15.019	14723.2	16519.0	143.809	27.86	46.78	395
265.000	3.230	0.31959	0.3346	15.791	14893.1	16750.0	144.692	27.38	45.69	403
270.000	3.129	0.31963	0.3214	16.539	15060.4	16978.2	145.543	27.92	45.15	408
275.000	3.035	0.32946	0.3094	17.265	15225.7	17202.4	146.365	27.99	44.54	414
280.000	2.949	0.33909	0.2965	17.973	15389.2	17423.8	147.163	28.07	44.03	419
285.000	2.869	0.34856	0.2885	18.664	15551.4	17642.8	147.938	28.16	43.60	424
290.000	2.794	0.35798	0.2792	19.339	15712.6	17859.9	148.694	28.27	43.25	429
295.000	2.724	0.36705	0.2706	20.000	15873.0	18075.4	149.430	28.40	42.95	434
300.000	2.659	0.37611	0.2627	20.649	16032.9	18289.5	150.150	28.54	42.71	439
310.000	2.539	0.38889	0.2483	21.911	16391.5	18714.8	151.545	28.84	42.37	448
320.000	2.431	0.41129	0.2356	23.133	16669.7	19137.5	152.887	29.19	42.13	456
330.000	2.334	0.42837	0.2244	24.321	16988.7	19558.9	154.183	29.57	42.11	465
340.000	2.246	0.44510	0.2143	25.479	17309.0	19980.0	155.440	29.99	42.13	472
350.000	2.166	0.45171	0.2052	26.610	17631.5	20401.8	156.663	30.43	42.24	480
360.000	2.092	0.47805	0.1969	27.718	17956.6	20824.9	157.855	30.90	42.41	487
370.000	2.024	0.49419	0.1894	28.806	18284.9	21250.1	159.026	31.38	42.63	494
380.000	1.960	0.51010	0.1825	29.875	18616.7	21677.7	160.160	31.88	42.91	501
390.000	1.901	0.52599	0.1761	30.928	18952.4	22108.3	161.279	32.40	43.22	507
400.000	1.846	0.54167	0.1702	31.965	19292.2	22542.3	162.377	32.93	43.57	513
420.000	1.746	0.57269	0.1596	34.001	19985.2	23421.3	164.522	34.03	44.35	520
440.000	1.658	0.61328	0.1504	35.990	20977.0	24316.7	166.604	35.14	45.21	537
460.000	1.576	0.63354	0.1423	37.942	21428.7	25230.0	168.634	36.28	46.12	548
480.000	1.507	0.65350	0.1350	39.860	22180.9	26101.9	170.617	37.41	47.07	559
500.000	1.443	0.67320	0.1286	41.750	22953.9	27113.1	172.558	38.54	48.05	570

METHANE ISOBAR AT P = 65.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
92.333	28.274	0.03537	20.5189	258.560	3492.7	3722.6	68.150	33.57	52.37	1585
95.000	28.056	0.03554	19.8643	248.788	3626.4	3858.1	69.661	33.51	52.65	1561
100.000	27.654	0.03616	18.6964	231.192	3880.0	4115.0	72.379	33.59	53.36	1513
105.000	27.247	0.03670	17.5866	213.904	4140.2	4378.8	75.001	33.07	54.12	1464
110.000	26.831	0.03727	16.5310	197.093	4405.8	4648.1	77.535	33.61	54.79	1415
115.000	26.407	0.03737	15.5249	180.873	4675.5	4921.6	79.993	33.38	55.35	1367
120.000	25.973	0.03850	14.5637	165.316	4948.3	5198.6	82.350	33.02	55.84	1320
125.000	25.526	0.03918	13.6432	150.463	5223.8	5478.5	84.640	32.03	56.35	1273
130.000	25.065	0.03990	12.7592	136.325	5502.2	5761.5	86.862	32.28	56.93	1225
135.000	24.589	0.04067	11.9079	122.894	5783.9	6048.2	89.027	32.02	57.79	1176
140.000	24.096	0.04150	11.0860	110.144	6069.8	6339.5	91.146	31.67	58.77	1125
145.000	23.582	0.04241	10.2903	99.038	6360.6	6636.3	93.228	31.78	59.94	1074
150.000	23.045	0.04339	9.5175	88.532	6657.2	6939.2	95.282	31.07	61.24	1021
155.000	22.480	0.04448	8.7648	79.585	6959.7	7248.9	97.312	31.45	62.62	969
160.000	21.883	0.04570	8.0287	71.156	7268.6	7565.6	99.323	31.03	64.09	919
165.000	21.245	0.04707	7.3056	63.220	7584.2	7890.1	101.320	30.42	65.75	868
170.000	20.555	0.04805	6.5914	55.767	7907.8	8224.0	103.313	29.73	67.93	807
175.000	19.798	0.05051	5.8809	48.807	8243.2	8571.5	105.325	29.73	71.68	744
180.000	18.947	0.05278	5.1678	42.385	8599.8	8941.8	107.411	29.61	76.78	677
185.000	17.959	0.05568	4.4437	36.564	8982.1	9344.0	109.615	29.71	84.74	605
190.000	16.751	0.05970	3.6972	31.547	9410.4	9798.5	112.038	30.10	98.43	525
195.000	15.136	0.06607	2.9168	27.490	9922.8	10352.2	114.913	31.00	127.27	438
200.000	12.545	0.07972	2.0446	2.931	10645.5	11163.7	119.017	32.09	213.99	340
205.000	9.187	0.11835	1.3072	2.503	11574.9	12232.4	124.543	33.14	138.97	306
210.000	7.317	0.13656	0.9698	3.797	12203.1	13091.4	128.446	31.49	128.65	311
215.000	6.339	0.15770	0.8025	5.280	12615.4	13640.8	131.033	30.35	105.63	322
220.000	5.708	0.17521	0.6982	6.516	12935.5	14074.4	133.027	29.61	79.37	333
225.000	5.250	0.19048	0.6249	7.840	13207.2	14445.3	134.695	29.09	69.75	342
230.000	4.895	0.20430	0.5695	8.973	13449.3	14777.2	136.154	28.73	63.42	351
235.000	4.607	0.21737	0.5256	10.033	13671.7	15092.6	137.468	28.46	60.96	360
240.000	4.366	0.22905	0.4898	11.031	13879.9	15368.7	138.673	28.28	55.66	369
245.000	4.160	0.24041	0.4597	11.977	14077.8	15640.5	139.793	28.15	53.13	375
250.000	3.986	0.25127	0.4340	12.879	14267.7	15901.0	140.846	28.06	51.15	383
255.000	3.821	0.26171	0.4118	13.742	14451.5	16152.6	141.843	28.01	49.55	389
260.000	3.679	0.27181	0.3922	14.572	14630.4	16397.1	142.792	28.00	48.27	396
265.000	3.551	0.28151	0.3748	15.373	14805.3	16635.8	143.701	28.01	47.21	402
270.000	3.435	0.29116	0.3592	16.148	14977.0	16869.5	144.575	28.04	46.33	408
275.000	3.328	0.30048	0.3451	16.900	15146.2	17099.3	145.419	28.10	45.50	413
280.000	3.230	0.30950	0.3324	17.631	15313.3	17325.8	146.235	28.17	44.79	419
285.000	3.139	0.31855	0.3207	18.344	15478.8	17549.4	147.026	28.26	44.18	424
290.000	3.055	0.32735	0.3099	19.039	15642.9	17770.7	147.796	28.37	43.65	429
295.000	2.976	0.33600	0.3000	19.720	15806.0	17990.0	148.546	28.49	43.19	434
300.000	2.903	0.34453	0.2909	20.386	15968.3	18207.7	149.278	28.62	42.79	439
310.000	2.766	0.35125	0.2744	21.681	16291.3	18639.4	150.693	28.92	42.37	444
320.000	2.648	0.37758	0.2599	22.933	16613.4	19037.6	152.053	29.27	42.70	457
330.000	2.541	0.33358	0.2471	24.147	16935.6	19493.9	153.364	29.64	42.57	469
340.000	2.443	0.41930	0.2357	25.329	17259.0	19919.4	154.635	30.05	42.55	473
350.000	2.354	0.42477	0.2254	26.482	17584.1	20345.1	155.869	30.49	42.61	480
360.000	2.273	0.44003	0.2161	27.611	17911.7	20771.9	157.071	30.95	42.75	485
370.000	2.197	0.45509	0.2077	28.717	18242.2	21200.3	158.245	31.44	42.95	494
380.000	2.128	0.46999	0.1999	29.803	18576.1	21631.0	159.393	31.94	43.20	501
390.000	2.063	0.48473	0.1928	30.871	18913.6	22054.4	160.519	32.46	43.49	509
400.000	2.003	0.49934	0.1862	31.923	19255.2	22500.9	161.624	32.99	43.82	514
420.000	1.893	0.52819	0.1744	33.984	19951.2	23384.5	163.793	34.07	44.55	525
440.000	1.797	0.55653	0.1642	35.996	20665.8	24284.0	165.872	35.19	45.43	533
460.000	1.716	0.58473	0.1552	37.967	21400.0	25200.8	167.909	36.32	46.23	543
480.000	1.633	0.61254	0.1472	39.902	22154.4	26135.9	169.899	37.45	47.22	550
500.000	1.562	0.64010	0.1400	41.808	22929.3	27089.9	171.846	38.57	48.18	571

METHANE ISOBAR AT P = 70.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	OP/DT BAR/K	OP/DO BAR-L/MOL	Z J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
92.459	28.284	0.03536	20.5014	259.184	3494.4	3741.9	68.171	33.60	52.35	1599
95.000	28.076	0.03562	19.8619	249.897	3621.7	3871.1	69.211	33.55	52.61	1563
100.000	27.676	0.03613	18.7185	232.398	3874.9	4127.8	72.327	33.63	53.31	1515
105.000	27.270	0.03667	17.6129	215.192	4134.6	4331.3	74.946	33.71	54.07	1467
110.000	26.857	0.03723	16.5612	198.452	4399.7	4600.3	77.477	33.55	54.75	1418
115.000	26.435	0.03783	15.5591	182.294	4668.7	4933.5	79.922	33.42	55.27	1371
120.000	26.003	0.03846	14.6019	166.792	4940.8	5210.0	82.285	33.66	55.75	1324
125.000	25.559	0.03913	13.6855	151.390	5215.5	5489.4	84.570	32.67	56.25	1277
130.000	25.102	0.03984	12.8058	137.902	5492.9	5771.8	86.788	32.32	56.65	1230
135.000	24.630	0.04060	11.9591	124.519	5773.6	6057.8	88.947	32.06	57.62	1181
140.000	24.141	0.04142	11.1421	111.820	6058.3	6348.2	91.060	31.91	58.53	1131
145.000	23.632	0.04231	10.3517	99.768	6347.7	6643.9	93.134	31.82	59.70	1080
150.000	23.102	0.04323	9.5850	88.322	6642.5	6945.5	95.179	31.71	60.95	1024
155.000	22.546	0.04435	8.8391	77.440	6943.0	7253.5	97.199	31.48	62.25	977
160.000	21.959	0.04554	8.1110	67.087	7249.3	7568.1	99.196	31.06	63.60	925
165.000	21.334	0.04687	7.3975	57.236	7561.7	7889.8	101.176	30.44	65.10	873
170.000	20.662	0.04846	6.6950	47.876	7881.1	8219.8	103.146	29.75	67.03	820
175.000	19.930	0.05018	5.9996	39.020	8210.7	8551.9	105.127	29.72	70.35	753
180.000	19.116	0.05231	5.3063	30.707	8557.8	8924.0	107.166	29.57	74.74	695
185.000	18.188	0.05493	4.6098	23.017	8928.0	9312.9	109.297	29.61	81.25	627
190.000	17.089	0.05852	3.9038	16.074	9333.1	9742.7	111.589	29.88	91.57	554
195.000	15.710	0.06336	3.1818	10.060	9796.0	10241.6	114.180	30.46	109.93	476
200.000	13.606	0.07243	2.4352	5.252	10370.2	10877.2	117.396	31.54	150.02	395
205.000	11.606	0.09051	1.6901	2.978	11144.4	11778.0	121.845	32.47	133.91	335
210.000	8.739	0.11443	1.2208	3.368	11846.1	12647.1	126.032	31.95	152.93	315
215.000	7.353	0.13600	0.9704	4.527	12343.7	13301.6	129.115	30.83	111.77	323
220.000	6.505	0.15374	0.8246	5.964	12722.2	13738.4	131.399	30.01	89.28	355
225.000	5.916	0.16904	0.7267	7.209	13027.0	14210.3	133.251	29.42	76.53	342
230.000	5.472	0.18274	0.6552	8.370	13292.0	14571.2	134.838	29.01	68.40	351
235.000	5.120	0.19330	0.5999	9.460	13531.4	14938.5	136.246	28.71	62.81	359
240.000	4.831	0.20700	0.5554	10.491	13752.5	15201.6	137.523	28.49	58.73	367
245.000	4.586	0.21804	0.5187	11.469	13961.2	15437.4	138.701	28.33	55.66	375
250.000	4.376	0.22854	0.4877	12.401	14159.7	15759.5	139.801	28.23	53.27	382
255.000	4.191	0.23851	0.4610	13.294	14350.7	16021.0	140.836	28.17	51.33	389
260.000	4.027	0.24831	0.4378	14.152	14535.8	16273.9	141.819	28.14	49.65	395
265.000	3.881	0.25770	0.4173	14.979	14716.0	16519.3	142.756	28.14	48.53	402
270.000	3.748	0.26682	0.3990	15.779	14892.5	16750.2	143.654	28.16	47.56	408
275.000	3.627	0.27571	0.3826	16.554	15065.8	16975.8	144.519	28.21	46.73	415
280.000	3.516	0.28440	0.3678	17.307	15235.7	17227.5	145.354	28.28	45.94	419
285.000	3.414	0.29291	0.3543	18.041	15405.4	17455.8	146.162	28.36	45.33	424
290.000	3.319	0.30125	0.3420	18.756	15572.6	17681.4	146.947	28.46	44.87	429
295.000	3.231	0.30946	0.3306	19.455	15738.4	17904.7	147.710	28.58	44.45	434
300.000	3.149	0.31753	0.3201	20.138	15903.3	18126.0	148.454	28.71	44.10	439
310.000	3.000	0.33334	0.3013	21.466	16230.8	18504.2	149.891	29.00	43.57	440
320.000	2.867	0.34875	0.2849	22.746	16556.8	18938.0	151.268	29.34	43.24	457
330.000	2.749	0.36383	0.2705	23.986	16882.5	19429.3	152.595	29.71	43.04	460
340.000	2.641	0.37862	0.2577	25.191	17208.9	19859.2	153.879	30.12	42.97	475
350.000	2.543	0.39317	0.2462	26.366	17536.8	20288.9	155.125	30.55	42.93	481
360.000	2.454	0.40750	0.2358	27.514	17866.8	20719.3	156.337	31.01	43.09	486
370.000	2.372	0.42163	0.2263	28.638	18193.5	21151.0	157.520	31.49	43.26	490
380.000	2.296	0.43560	0.2177	29.740	18535.4	21584.7	158.676	31.99	43.48	502
390.000	2.225	0.44942	0.2098	30.824	18874.9	22020.8	159.809	32.51	43.75	510
400.000	2.159	0.46310	0.2025	31.890	19218.2	22459.9	160.921	33.04	44.05	519
420.000	2.040	0.48010	0.1894	33.976	19917.4	23346.1	163.067	34.12	44.78	527
440.000	1.935	0.51639	0.1781	36.010	20634.7	24251.6	165.139	35.23	45.53	535
460.000	1.842	0.54234	0.1682	38.000	21371.3	25171.9	167.234	36.36	46.46	540
480.000	1.758	0.56830	0.1594	39.953	22127.9	26110.2	169.231	37.49	47.37	561
500.000	1.682	0.59451	0.1516	41.873	22904.8	27057.1	171.183	38.61	48.32	571

METHANE ISOBAR AT P = 75.0 BAR

T	UEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/10L/K	1/SEC
32.585	28.294	0.03534	20.4859	259.805	3496.1	3761.2	68.193	33.64	52.32	1567
35.000	28.096	0.03559	19.8394	250.998	3617.1	3834.1	69.560	33.59	52.57	1567
100.000	27.697	0.03610	18.7403	233.595	3869.9	4140.7	72.274	33.67	53.27	1513
105.000	27.293	0.03654	17.6388	216.472	4129.1	4403.9	74.891	33.75	54.01	1469
110.000	26.882	0.03720	16.5911	199.802	4393.6	4672.6	77.419	33.69	54.66	1422
115.000	26.462	0.03779	15.5929	183.706	4662.0	4945.4	79.861	33.46	55.19	1374
120.000	26.033	0.03841	14.6397	168.260	4933.4	5221.5	82.220	33.10	55.66	1323
125.000	25.592	0.03908	13.7273	153.508	5207.3	5500.4	84.502	32.71	56.14	1281
130.000	25.138	0.03978	12.8518	139.467	5483.8	5782.2	86.714	32.36	56.72	1234
135.000	24.670	0.04054	12.0095	126.132	5763.5	6067.5	88.869	32.10	57.47	1186
140.000	24.185	0.04135	11.1973	113.481	6046.9	6357.0	90.975	31.95	58.33	1137
145.000	23.682	0.04223	10.4121	101.481	6334.9	6651.6	93.042	31.86	59.48	1087
150.000	23.158	0.04319	9.6512	90.092	6628.1	6952.0	95.076	31.75	60.66	1035
155.000	22.610	0.04423	8.9118	79.274	6926.7	7258.4	97.088	31.52	61.90	985
160.000	22.032	0.04539	8.1911	68.991	7230.6	7571.1	99.072	31.09	63.15	935
165.000	21.429	0.04669	7.4865	59.217	7540.0	7890.1	101.036	30.47	64.50	884
170.000	20.765	0.04816	6.7948	49.943	7855.5	8216.7	102.985	29.76	66.21	832
175.000	20.055	0.04980	6.1126	41.179	8179.9	8553.9	104.938	29.72	69.20	773
180.000	19.274	0.05188	5.4366	32.962	8519.7	8908.8	106.937	29.55	73.00	712
185.000	18.395	0.05436	4.7628	25.363	8879.9	9280.6	109.007	29.55	76.44	648
190.000	17.376	0.05754	4.0880	18.492	9266.1	9667.7	111.139	29.72	80.59	579
195.000	16.154	0.06190	3.4162	12.502	9699.2	10100.5	113.603	30.14	89.65	508
200.000	14.593	0.06853	2.7300	7.589	10197.2	10711.1	116.390	30.87	123.10	434
205.000	12.475	0.08016	2.0535	4.225	10821.8	11423.0	119.903	31.74	153.22	365
210.000	10.152	0.09850	1.5017	3.750	11508.5	12247.3	123.876	31.85	154.37	337
215.000	8.484	0.11737	1.1709	4.308	12066.0	12950.0	127.185	31.13	126.20	330
220.000	7.382	0.13545	0.9711	5.469	12495.1	13511.1	129.765	30.34	89.95	335
225.000	6.636	0.15059	0.8422	6.695	12837.0	13957.2	131.816	29.72	33.84	343
230.000	6.089	0.16423	0.7507	7.860	13127.7	14359.4	133.541	29.27	73.77	351
235.000	5.664	0.17657	0.6815	8.964	13385.7	14710.0	135.049	28.93	56.90	359
240.000	5.319	0.18831	0.6209	10.013	13621.5	15031.5	136.403	28.69	51.93	367
245.000	5.031	0.19875	0.5624	11.012	13841.3	15331.9	137.642	28.51	58.32	375
250.000	4.786	0.20894	0.5052	11.968	14049.1	15616.2	138.790	28.39	55.50	382
255.000	4.573	0.21867	0.5135	12.884	14247.9	15887.9	139.867	28.31	53.27	389
260.000	4.386	0.22802	0.4862	13.765	14439.5	16149.6	140.883	28.27	51.43	395
265.000	4.219	0.23705	0.4622	14.615	14625.4	16403.3	141.859	28.26	50.03	402
270.000	4.068	0.24581	0.4409	15.436	14806.8	16650.3	142.773	28.26	48.83	408
275.000	3.932	0.25432	0.4220	16.232	14984.5	16891.9	143.660	28.32	47.83	413
280.000	3.808	0.26263	0.4049	17.005	15159.2	17128.9	144.514	28.38	47.09	419
285.000	3.693	0.27075	0.3894	17.757	15331.5	17362.1	145.339	28.46	46.31	424
290.000	3.588	0.27871	0.3753	18.491	15501.8	17592.1	146.139	28.55	45.71	430
295.000	3.490	0.28652	0.3624	19.207	15670.5	17819.4	146.916	28.67	45.22	435
300.000	3.399	0.29420	0.3504	19.907	15837.9	18044.4	147.673	28.79	44.81	439
310.000	3.234	0.30921	0.3292	21.265	16170.1	18499.2	149.131	29.08	44.15	444
320.000	3.088	0.32343	0.3107	22.573	16500.1	18928.8	150.527	29.41	43.77	453
330.000	2.958	0.33811	0.2946	23.838	16829.3	19365.1	151.869	29.78	43.51	460
340.000	2.840	0.35210	0.2802	25.066	17158.7	19799.5	153.166	30.18	43.33	474
350.000	2.733	0.36584	0.2674	26.261	17483.4	20233.2	154.423	30.61	43.37	482
360.000	2.636	0.37936	0.2558	27.428	17821.9	20667.1	155.646	31.07	43.43	489
370.000	2.547	0.39269	0.2454	28.569	18156.9	21102.1	156.838	31.55	43.57	496
380.000	2.464	0.40585	0.2358	29.688	18494.9	21538.8	158.002	32.05	43.77	503
390.000	2.387	0.41886	0.2271	30.786	18836.2	21977.7	159.142	32.56	44.62	509
400.000	2.316	0.43174	0.2190	31.866	19181.3	22419.3	160.260	33.09	44.31	515
420.000	2.186	0.45713	0.2047	33.977	19883.6	23312.1	162.438	34.17	44.99	523
440.000	2.074	0.48211	0.1923	36.033	20603.8	24219.6	164.549	35.28	45.77	530
460.000	1.973	0.50676	0.1814	38.041	21342.8	25143.5	166.602	36.40	46.62	551
480.000	1.883	0.53111	0.1718	40.010	22101.5	26084.9	168.605	37.53	47.52	562
500.000	1.801	0.55523	0.1633	41.945	22880.3	27044.5	170.564	38.65	48.45	572

METHANE ISOBAR AT P = 80.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CF	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/10L/K	1/SEC
92.711	28.303	0.03533	20.4705	260.422	3497.9	3730.5	63.214	33.68	52.30	1583
95.000	28.116	0.03557	19.9166	252.090	3612.6	3837.1	63.510	33.63	52.54	1567
100.000	27.719	0.03608	18.7619	234.784	3864.9	4153.5	72.222	33.71	53.23	1520
105.000	27.316	0.03661	17.6044	217.743	4123.6	4416.5	74.637	33.79	53.95	1472
110.000	26.907	0.03717	16.6207	201.145	4387.5	4634.9	77.352	33.73	54.61	1425
115.000	26.489	0.03775	15.6263	185.110	4655.3	4857.3	79.801	33.50	55.12	1373
120.000	26.062	0.03837	14.60770	169.718	4926.0	5033.0	82.156	33.14	55.57	1332
125.000	25.624	0.03903	13.7686	155.010	5199.2	5211.4	84.434	32.75	56.03	1285
130.000	25.173	0.03972	12.8971	141.023	5474.8	5392.6	86.642	32.40	56.53	1239
135.000	24.709	0.04047	12.0592	127.734	5753.5	5577.2	88.791	32.14	57.31	1192
140.000	24.229	0.04127	11.2516	115.130	6035.8	5765.9	90.891	31.99	58.21	1143
145.000	23.731	0.04214	10.4715	103.179	6322.5	5959.6	92.951	31.89	59.26	1093
150.000	23.213	0.04308	9.7161	91.845	6614.1	6158.7	94.979	31.78	60.33	1043
155.000	22.672	0.04411	8.9828	81.085	6910.8	6363.0	96.979	31.55	61.56	993
160.000	22.104	0.04524	8.2692	70.868	7212.4	6574.4	98.952	31.13	62.72	944
165.000	21.503	0.04651	7.5728	61.167	7519.0	6791.0	100.900	30.49	63.95	894
170.000	20.863	0.04793	6.8909	51.972	7830.9	7014.3	102.830	29.78	65.47	844
175.000	20.173	0.04957	6.2208	43.291	8150.6	7243.2	104.757	29.73	68.17	787
180.000	19.420	0.05149	5.5597	35.158	8483.9	7485.9	106.722	29.53	71.44	723
185.000	18.584	0.05381	4.9051	27.637	8833.8	7740.4	108.740	29.49	76.13	660
190.000	17.633	0.05671	4.2553	20.823	9206.7	8000.4	110.853	29.51	82.75	602
195.000	16.520	0.06053	3.6105	14.847	9612.9	8277.1	113.121	29.31	92.64	535
200.000	15.169	0.06592	2.9740	9.861	10093.1	8566.5	115.648	30.43	108.39	463
205.000	13.458	0.07430	2.3529	6.097	10603.4	8871.8	118.617	31.11	133.86	404
210.000	11.394	0.09776	1.7865	4.372	11222.8	11924.9	122.120	31.53	149.59	360
215.000	9.617	0.13393	1.3917	4.592	11792.8	12624.6	125.414	31.19	129.24	344
220.000	8.322	0.16016	1.1385	5.234	12260.0	13221.3	128.158	30.55	109.21	342
225.000	7.406	0.18502	0.9719	6.323	12633.7	13719.8	130.400	29.36	91.24	343
230.000	6.743	0.14831	0.8565	7.460	12957.5	14143.9	132.265	29.49	79.23	353
235.000	6.235	0.15039	0.7710	8.558	13235.5	14518.6	133.876	29.14	71.12	361
240.000	5.629	0.17150	0.7045	9.510	13486.6	14859.1	135.310	28.87	60.35	363
245.000	5.494	0.18202	0.6510	10.019	13718.5	15174.0	136.612	28.68	51.03	375
250.000	5.211	0.19191	0.6068	11.588	13936.2	15471.5	137.811	28.54	47.80	382
255.000	4.967	0.21133	0.5694	12.519	14143.1	15753.8	138.925	28.45	45.23	385
260.000	4.754	0.21637	0.5374	13.417	14341.7	16024.0	139.981	28.40	43.17	390
265.000	4.565	0.21908	0.5095	14.285	14533.5	16286.1	140.970	28.38	41.50	402
270.000	4.395	0.22750	0.4850	15.124	14720.1	16540.1	141.927	28.39	40.13	405
275.000	4.243	0.23559	0.4632	15.938	14902.3	16787.8	142.836	28.42	38.93	414
280.000	4.104	0.24366	0.4436	16.728	15081.0	17030.3	143.710	28.48	38.04	419
285.000	3.977	0.25144	0.4260	17.497	15255.9	17268.4	144.553	28.55	37.24	424
290.000	3.860	0.25935	0.4100	18.246	15430.5	17502.9	145.369	28.64	36.57	430
295.000	3.752	0.26652	0.3953	18.978	15602.1	17734.3	146.160	28.75	36.01	435
300.000	3.652	0.27335	0.3819	19.693	15772.3	17963.1	146.929	28.87	35.53	440
310.000	3.470	0.28817	0.3580	21.079	16109.2	18414.5	148.409	29.15	34.83	443
320.000	3.310	0.30218	0.3373	22.413	16443.2	18859.9	149.823	29.48	34.33	453
330.000	3.168	0.31560	0.3193	23.702	16776.0	19311.2	151.181	29.85	33.93	467
340.000	3.040	0.32894	0.3033	24.952	17108.6	19740.1	152.491	30.25	33.61	475
350.000	2.924	0.34137	0.2891	26.168	17442.0	20177.8	153.760	30.67	33.35	482
360.000	2.819	0.35479	0.2763	27.353	17777.1	20615.4	154.993	31.13	33.73	490
370.000	2.722	0.36741	0.2648	28.511	18114.3	21053.7	156.194	31.61	33.63	497
380.000	2.632	0.37987	0.2543	29.646	18454.4	21493.3	157.366	32.10	33.66	504
390.000	2.550	0.39217	0.2447	30.758	18797.6	21935.0	158.513	32.51	33.28	510
400.000	2.473	0.40434	0.2358	31.852	19144.4	22379.2	159.636	33.14	33.55	517
420.000	2.335	0.42832	0.2211	33.987	19850.0	23276.5	161.827	34.22	35.20	523
440.000	2.213	0.45189	0.2066	36.063	20572.8	24138.0	163.947	35.32	35.90	541
460.000	2.105	0.47513	0.1948	38.090	21314.3	25115.4	166.048	36.45	36.73	552
480.000	2.008	0.49898	0.1843	40.075	22075.2	26059.9	168.018	37.57	37.67	563
500.000	1.920	0.52079	0.1751	42.024	22850.0	27022.3	169.982	38.69	38.58	573

METHANE ISOBAR AT P = 85.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
92.837	28.313	0.03532	20.4552	261.036	3499.6	3739.9	68.235	33.71	52.28	1588
95.000	28.135	0.03554	19.9336	253.174	3608.0	3910.2	63.461	33.67	52.50	1569
100.000	27.740	0.03605	18.7832	235.967	3859.9	4106.3	72.170	33.75	53.18	1522
105.000	27.339	0.03658	17.6898	219.007	4118.2	4429.1	74.783	33.83	53.91	1475
110.000	26.932	0.03713	16.6499	202.479	4381.6	4637.2	77.305	33.77	54.53	1428
115.000	26.516	0.03771	15.6593	186.506	4648.8	4909.3	79.741	33.54	55.04	1381
120.000	26.092	0.03833	14.7139	171.170	4913.8	5244.6	82.093	33.18	55.48	1335
125.000	25.656	0.03898	13.8093	156.516	5191.2	5522.5	84.367	32.79	55.93	1290
130.000	25.209	0.03967	12.9419	142.568	5465.0	5833.1	86.570	32.44	56.47	1244
135.000	24.748	0.04041	12.1082	129.324	5743.6	6097.1	88.714	32.18	57.17	1197
140.000	24.272	0.04120	11.3051	116.766	6024.8	6375.0	90.808	32.02	58.04	1143
145.000	23.779	0.04205	10.5298	104.863	6310.2	6657.7	92.862	31.93	59.05	1093
150.000	23.267	0.04298	9.7797	93.579	6600.3	6955.6	94.882	31.82	60.14	1050
155.000	22.733	0.04399	9.0523	82.876	6895.2	7259.1	96.872	31.59	61.24	1001
160.000	22.173	0.04510	8.3454	72.721	7194.7	7578.1	98.833	31.16	62.32	952
165.000	21.584	0.04633	7.6567	63.088	7498.6	7892.4	100.768	30.92	63.43	904
170.000	20.957	0.04772	6.9838	53.965	7807.2	8212.8	102.681	29.80	64.78	855
175.000	20.288	0.04929	6.3246	45.360	8122.6	8541.0	104.584	29.74	67.24	806
180.000	19.558	0.05113	5.6767	37.302	8450.2	8884.8	106.518	29.52	70.18	743
185.000	18.758	0.05331	5.0386	29.847	8792.0	9245.1	108.492	29.45	74.18	684
190.000	17.861	0.05599	4.4194	23.081	9153.1	9629.0	110.539	29.52	79.69	623
195.000	16.834	0.05940	3.7903	17.113	9540.9	10045.9	112.704	29.74	87.51	560
200.000	15.626	0.06400	3.1855	12.069	9966.2	10510.2	115.055	30.12	98.93	497
205.000	14.168	0.07058	2.6023	8.093	10445.3	11045.3	117.696	30.65	116.10	437
210.000	12.417	0.08053	2.0572	5.550	10991.6	11678.2	120.736	31.11	134.95	387
215.000	10.653	0.09387	1.6173	5.094	11549.6	12347.5	123.896	31.15	128.44	362
220.000	9.264	0.10795	1.3200	5.461	12031.5	12939.1	126.662	30.62	112.42	334
225.000	8.210	0.12180	1.1157	6.160	12439.1	13474.3	129.024	30.12	97.56	353
230.000	7.427	0.13455	0.9727	7.185	12783.5	13928.0	131.019	29.67	84.58	357
235.000	6.836	0.14640	0.8683	8.251	13082.0	14326.5	132.733	29.31	75.33	354
240.000	6.358	0.15727	0.7882	9.291	13349.0	14685.8	134.246	29.04	68.74	370
245.000	5.972	0.16744	0.7246	10.297	13593.4	15016.7	135.611	28.83	63.85	377
250.000	5.649	0.17704	0.6724	11.269	13821.4	15326.2	136.862	28.69	60.13	384
255.000	5.371	0.18617	0.6288	12.208	14036.8	15619.3	138.022	28.59	57.21	390
260.000	5.131	0.19491	0.5916	13.115	14242.5	15899.3	139.110	28.52	54.83	397
265.000	4.918	0.20332	0.5594	13.995	14440.6	16168.8	140.137	28.50	52.99	403
270.000	4.729	0.21145	0.5312	14.847	14632.5	16429.8	141.112	28.50	51.44	403
275.000	4.559	0.21933	0.5063	15.675	14819.4	16683.7	142.044	28.53	50.10	410
280.000	4.405	0.22700	0.4841	16.479	15002.3	16931.8	142.938	28.57	49.03	420
285.000	4.265	0.23447	0.4641	17.262	15181.9	17174.9	143.799	28.64	48.19	425
290.000	4.136	0.24178	0.4460	18.026	15358.8	17413.9	144.630	28.73	47.44	431
295.000	4.017	0.24894	0.4295	18.771	15533.5	17649.5	145.436	28.83	46.80	436
300.000	3.907	0.25597	0.4144	19.499	15706.3	17882.1	146.217	28.95	46.26	441
310.000	3.768	0.26966	0.3876	20.911	16048.1	18340.2	147.720	29.23	45.42	453
320.000	3.634	0.28295	0.3646	22.269	16386.3	18731.4	149.152	29.55	44.85	459
330.000	3.506	0.29590	0.3446	23.580	16722.7	19237.8	150.526	29.91	44.40	467
340.000	3.241	0.30856	0.3270	24.851	17058.4	19631.2	151.850	30.31	44.23	475
350.000	3.116	0.32097	0.3113	26.086	17394.7	20122.9	153.130	30.73	44.13	483
360.000	3.002	0.33316	0.2972	27.289	17732.3	20564.1	154.373	31.19	44.12	491
370.000	2.897	0.34515	0.2846	28.463	18071.8	21055.7	155.583	31.66	44.20	499
380.000	2.801	0.35698	0.2731	29.613	18414.0	21448.3	156.763	32.15	44.35	507
390.000	2.713	0.36856	0.2625	30.740	18759.1	21832.8	157.918	32.66	44.55	511
400.000	2.630	0.38020	0.2529	31.846	19107.7	22339.5	159.049	33.19	44.80	518
420.000	2.482	0.40294	0.2358	34.005	19616.4	23241.3	161.249	34.26	45.41	530
440.000	2.351	0.42526	0.2211	36.102	20142.0	24136.8	163.378	35.37	46.14	542
460.000	2.236	0.44726	0.2083	38.146	21285.9	25087.0	165.446	36.49	46.95	553
480.000	2.132	0.46896	0.1970	40.147	22049.0	26035.2	167.453	37.61	47.81	564
500.000	2.039	0.49043	0.1869	42.109	22831.8	27000.4	169.433	38.73	48.71	575

METHANE ISOBAR AT P = 90.0 BAR

T	OEN	VOL	DP/OT	DP/DO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
92.363	28.323	0.03531	20.4400	261.647	3501.4	3819.2	68.256	33.75	52.25	1583
95.000	28.155	0.03552	19.9503	254.250	3603.5	3923.2	69.411	33.71	52.47	1571
100.000	27.761	0.03632	18.8042	237.140	3855.0	4179.2	72.119	33.79	53.14	1525
105.000	27.362	0.03655	17.7148	220.263	4112.8	4411.7	74.729	33.87	53.65	1477
110.000	26.956	0.03710	16.6788	203.806	4375.6	4709.5	77.249	33.81	54.47	1431
115.000	26.543	0.03767	15.6920	187.893	4642.2	4931.3	79.682	33.58	54.97	1385
120.000	26.121	0.03828	14.7503	172.611	4911.6	5256.2	82.030	33.22	55.39	1339
125.000	25.686	0.03833	13.8496	158.006	5183.3	5533.6	84.300	32.83	55.82	1294
130.000	25.244	0.03961	12.9861	144.104	5457.2	5813.7	86.499	32.48	56.35	1243
135.000	24.786	0.04034	12.1565	130.904	5733.9	6037.0	88.638	32.22	57.03	1202
140.000	24.314	0.04113	11.3578	118.389	6014.0	6384.1	90.726	32.06	57.87	1154
145.000	23.826	0.04197	10.5971	106.532	6298.1	6675.9	92.774	31.97	58.84	1105
150.000	23.320	0.04288	9.8421	95.298	6586.8	6972.7	94.786	31.85	59.83	1057
155.000	22.793	0.04387	9.1204	84.648	6880.0	7274.9	96.767	31.62	60.94	1003
160.000	22.241	0.04496	8.4198	74.551	7177.5	7582.1	98.718	31.19	61.95	961
165.000	21.662	0.04616	7.7383	64.980	7478.9	7894.3	100.639	30.55	62.95	914
170.000	21.048	0.04751	7.0738	55.924	7784.3	8211.9	102.536	29.82	64.15	865
175.000	20.394	0.04933	6.4244	47.388	8095.8	8537.1	104.418	29.75	66.33	812
180.000	19.689	0.05079	5.7384	39.398	8413.2	8875.3	106.323	29.52	69.61	753
185.000	18.920	0.05286	5.1045	32.002	8753.0	9226.7	108.260	29.43	72.55	701
190.000	18.066	0.05535	4.5527	25.276	9104.2	9602.3	110.252	29.45	77.13	643
195.000	17.109	0.05845	3.9545	19.315	9477.2	10003.3	112.335	29.61	83.55	583
200.000	16.007	0.06247	3.3741	14.220	9879.7	10441.9	114.555	29.46	92.34	523
205.000	14.720	0.06793	2.8182	10.100	10321.6	10933.0	116.980	30.31	104.71	465
210.000	13.212	0.07569	2.2975	7.134	10812.9	11494.1	119.683	30.72	119.73	415
215.000	11.577	0.08638	1.8427	5.798	11337.2	12114.6	122.603	30.92	124.07	382
220.000	10.144	0.09858	1.5060	5.924	11823.1	12710.3	125.343	30.57	112.43	369
225.000	9.014	0.11094	1.2697	6.349	12243.4	13241.9	127.732	30.18	100.43	353
230.000	8.129	0.12301	1.0988	7.083	12608.7	13715.8	129.816	29.79	89.11	363
235.000	7.445	0.13433	0.9734	8.055	12926.9	14135.8	131.623	29.45	79.33	363
240.000	6.904	0.14485	0.8781	9.062	13209.6	14513.3	133.213	29.18	72.05	373
245.000	6.464	0.15470	0.8031	10.053	13466.9	14859.2	134.639	28.97	66.59	383
250.000	6.097	0.16400	0.7422	11.018	13705.3	15131.3	135.941	28.82	62.43	385
255.000	5.785	0.17235	0.6916	11.956	13929.4	15435.0	137.144	28.71	59.13	392
260.000	5.516	0.18130	0.6467	12.867	14142.5	15774.2	138.267	28.64	56.59	393
265.000	5.279	0.18944	0.6118	13.751	14346.8	16051.7	139.325	28.60	54.49	404
270.000	5.069	0.19728	0.5797	14.611	14544.2	16319.7	140.327	28.60	52.77	413
275.000	4.881	0.20489	0.5514	15.448	14735.9	16579.3	141.281	28.62	51.34	415
280.000	4.711	0.21228	0.5262	16.262	14923.0	16833.5	142.195	28.67	50.15	421
285.000	4.556	0.21948	0.5037	17.050	15106.4	17081.7	143.074	28.73	49.15	425
290.000	4.415	0.22651	0.4833	17.831	15286.7	17325.3	143.921	28.81	48.31	432
295.000	4.285	0.23339	0.4649	18.586	15464.5	17565.0	144.741	28.91	47.59	437
300.000	4.164	0.24014	0.4480	19.328	15640.2	17801.4	145.535	29.03	46.99	442
310.000	3.948	0.25327	0.4182	20.762	15885.9	18256.4	147.060	29.36	46.65	451
320.000	3.759	0.26630	0.3927	22.141	16329.3	18723.4	148.511	29.52	45.33	460
330.000	3.592	0.27833	0.3706	23.473	16669.3	19174.9	149.900	29.97	44.94	468
340.000	3.442	0.29043	0.3512	24.763	17008.3	19622.7	151.237	30.37	44.65	475
350.000	3.308	0.30234	0.3340	26.015	17347.4	20068.5	152.530	30.79	44.51	484
360.000	3.185	0.31397	0.3186	27.235	17687.5	20513.3	153.783	31.24	44.47	492
370.000	3.073	0.32541	0.3047	28.426	18029.4	20958.1	155.001	31.71	44.51	499
380.000	2.970	0.33658	0.2922	29.590	18373.6	21403.8	156.190	32.21	44.63	505
390.000	2.875	0.34780	0.2807	30.730	18720.7	21851.0	157.351	32.71	44.81	512
400.000	2.787	0.35873	0.2702	31.849	19071.1	22306.2	158.489	33.23	45.04	519
420.000	2.629	0.38041	0.2517	34.031	19782.9	23216.6	160.750	34.31	45.62	531
440.000	2.490	0.41152	0.2358	36.147	20511.3	24125.9	162.838	35.41	46.33	543
460.000	2.367	0.42251	0.2219	38.209	21257.6	25030.2	164.915	36.53	47.11	554
480.000	2.257	0.44311	0.2097	40.225	22022.9	26016.9	166.937	37.65	47.95	565
500.000	2.158	0.45347	0.1989	42.201	22807.6	26978.8	168.913	38.77	48.84	575

METHANE ISOBAR AT P = 95.0 BAR

T	DEN	VOL	DP/DT	OP/OD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
93.089	28.332	0.03530	20.4248	262.254	3503.2	3838.5	68.277	33.79	52.23	1590
95.000	28.175	0.03549	19.9668	255.317	3599.1	3936.3	69.362	33.75	52.43	1572
100.000	27.782	0.03599	18.8250	238.305	3850.1	4192.1	72.057	33.83	53.10	1527
105.000	27.384	0.03652	17.7396	221.512	4107.5	4454.4	74.675	33.91	53.80	1480
110.000	26.981	0.03706	16.7074	205.125	4369.8	4721.9	77.193	33.85	54.41	1434
115.000	26.569	0.03764	15.7243	189.273	4635.8	4933.4	79.622	33.62	54.90	1383
120.000	26.149	0.03824	14.7863	174.044	4904.5	5207.8	81.968	33.26	55.31	1343
125.000	25.719	0.03888	13.8894	159.487	5175.4	5544.8	84.234	32.87	55.72	1298
130.000	25.278	0.03956	13.0298	145.630	5448.6	5824.4	86.429	32.52	56.23	1253
135.000	24.824	0.04028	12.2042	132.472	5724.3	6107.0	88.563	32.26	56.89	1207
140.000	24.356	0.04106	11.4097	120.001	6003.4	6393.4	90.646	32.10	57.70	1160
145.000	23.873	0.04189	10.6436	108.188	6286.3	6684.2	92.687	32.01	58.65	1112
150.000	23.372	0.04273	9.9034	97.000	6573.5	6980.0	94.692	31.89	59.66	1064
155.000	22.851	0.04376	9.1871	86.401	6865.1	7280.8	96.665	31.66	60.85	1016
160.000	22.307	0.04483	8.4925	76.358	7160.6	7586.5	98.605	31.22	61.53	969
165.000	21.737	0.04600	7.8178	66.847	7459.7	7896.7	100.514	30.57	62.50	923
170.000	21.136	0.04731	7.1610	57.853	7762.3	8211.7	102.395	29.84	63.57	876
175.000	20.497	0.04879	6.5206	49.380	8070.1	8533.0	104.258	29.76	65.62	824
180.000	19.812	0.05047	5.8952	41.451	8387.8	8867.3	106.138	29.52	67.97	771
185.000	19.071	0.05244	5.2840	34.108	8716.3	9214.5	108.040	29.41	71.05	717
190.000	18.258	0.05477	4.6871	27.416	9059.0	9579.3	109.986	29.40	75.03	661
195.000	17.354	0.05762	4.1062	21.459	9419.9	9957.3	112.002	29.51	80.39	604
200.000	16.335	0.06122	3.5453	16.323	9804.5	10356.1	114.122	29.73	87.45	547
205.000	15.172	0.06591	3.0105	12.091	10219.5	10845.7	116.391	30.05	96.81	493
210.000	13.840	0.07225	2.5097	8.866	10671.5	11357.9	118.859	30.40	108.29	444
215.000	12.371	0.08084	2.0587	6.901	11156.6	11924.5	121.525	30.55	116.94	405
220.000	10.952	0.09131	1.6934	6.483	11635.0	12502.4	124.183	30.45	111.57	380
225.000	9.777	0.10228	1.4277	6.785	12661.4	13033.1	126.568	30.17	100.89	370
230.000	8.630	0.11326	1.2324	7.254	12438.0	13513.9	128.682	29.65	91.62	375
235.000	8.168	0.12394	1.0857	8.005	12772.1	13949.5	130.555	29.55	82.71	374
240.000	7.460	0.13405	0.9740	8.932	13069.8	14343.3	132.214	29.29	75.09	378
245.000	6.966	0.14350	0.8865	9.890	13333.6	14703.4	133.699	29.08	69.21	383
250.000	6.555	0.15255	0.8160	10.838	13588.4	15037.6	135.050	28.93	64.67	389
255.000	6.207	0.16110	0.7577	11.766	13821.2	15351.7	136.294	28.82	61.11	394
260.000	5.907	0.16928	0.7087	12.673	14041.7	15649.9	137.452	28.74	58.27	400
265.000	5.645	0.17714	0.6667	13.557	14252.4	15935.3	138.540	28.70	55.97	405
270.000	5.413	0.18473	0.6303	14.419	14455.4	16210.3	139.568	28.70	54.04	412
275.000	5.206	0.19207	0.5983	15.260	14652.0	16476.6	140.545	28.71	52.51	417
280.000	5.020	0.19920	0.5701	16.081	14843.4	16735.8	141.479	28.75	51.20	423
285.000	4.851	0.20614	0.5448	16.882	15030.7	16989.0	142.376	28.81	50.10	429
290.000	4.697	0.21292	0.5220	17.665	15214.4	17237.2	143.239	28.89	49.13	433
295.000	4.555	0.21955	0.5014	18.431	15395.4	17481.0	144.073	28.99	48.39	438
300.000	4.424	0.22604	0.4827	19.180	15573.9	17721.3	144.880	29.10	47.72	443
310.000	4.190	0.23857	0.4497	20.633	15925.6	18193.0	145.427	29.37	46.63	452
320.000	3.986	0.25033	0.4216	22.031	16272.3	18655.8	147.896	29.68	45.93	461
330.000	3.805	0.26278	0.3973	23.381	16616.0	19112.4	149.301	30.04	45.42	469
340.000	3.645	0.27437	0.3760	24.688	16958.2	19554.8	150.652	30.43	45.18	473
350.000	3.500	0.28572	0.3572	25.958	17300.2	20014.5	151.956	30.85	44.89	480
360.000	3.369	0.29695	0.3404	27.193	17642.9	20462.9	153.219	31.30	44.81	483
370.000	3.249	0.30778	0.3253	28.399	17987.1	20911.0	154.447	31.77	44.82	489
380.000	3.139	0.31855	0.3116	29.576	18333.4	21359.7	155.643	32.26	44.92	493
390.000	3.038	0.32917	0.2992	30.730	18682.4	21809.6	156.812	32.76	45.07	513
400.000	2.944	0.33966	0.2878	31.861	19034.6	22251.3	157.955	33.28	45.23	520
420.000	2.776	0.36028	0.2678	34.064	19749.6	23172.2	160.177	34.36	45.83	532
440.000	2.628	0.38050	0.2506	36.200	20480.7	24035.5	162.325	35.46	46.51	544
460.000	2.498	0.40039	0.2357	38.279	21229.5	25033.2	164.409	36.57	47.28	555
480.000	2.381	0.42000	0.2226	40.310	21996.9	25986.9	166.438	37.69	48.10	566
500.000	2.276	0.43937	0.2110	42.299	22783.5	26957.6	168.419	38.81	48.97	577

METHANE ISOBAR AT P = 100.0 BAR

T	UEN	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
93.214	28.342	0.03528	20.4097	262.858	3505.0	3857.8	68.299	33.82	52.21	1590
95.000	28.194	0.03547	19.9831	258.376	3594.7	3949.3	69.312	33.79	52.40	1574
100.000	27.803	0.03597	18.8456	239.463	3845.3	4204.9	72.016	33.87	53.03	1529
105.000	27.407	0.03649	17.7641	222.752	4102.2	4457.0	74.622	33.95	53.75	1483
110.000	27.005	0.03713	16.7357	206.436	4364.0	4734.3	77.137	33.89	54.35	1437
115.000	26.596	0.03760	15.7563	190.645	4629.4	5015.4	79.564	33.65	54.83	1391
120.000	26.178	0.03820	14.8219	175.469	4897.5	5279.5	81.906	33.30	55.22	1347
125.000	25.751	0.03883	13.9287	160.960	5167.7	5556.0	84.168	32.91	55.63	1302
130.000	25.312	0.03951	13.0728	147.146	5440.0	5835.1	86.359	32.55	56.12	1257
135.000	24.862	0.04022	12.2512	134.031	5714.9	6117.1	88.488	32.29	56.75	1212
140.000	24.398	0.04099	11.4608	121.600	5992.9	6402.8	90.566	32.14	57.54	1165
145.000	23.919	0.04181	10.6991	109.830	6274.6	6692.7	92.601	32.04	58.45	1116
150.000	23.423	0.04264	9.9637	98.087	6560.5	6987.5	94.599	31.93	59.43	1071
155.000	22.908	0.04355	9.2525	88.137	6850.5	7287.0	96.564	31.69	60.38	1023
160.000	22.372	0.04470	8.5636	78.145	7144.2	7591.2	98.494	31.25	61.25	977
165.000	21.811	0.04585	7.8952	68.089	7441.0	7899.5	100.392	30.50	62.08	932
170.000	21.221	0.04712	7.2457	59.753	7740.9	8212.1	102.250	29.86	63.03	887
175.000	20.597	0.04855	6.6136	51.339	8045.4	8530.9	104.104	29.77	64.92	835
180.000	19.930	0.05017	5.9979	43.464	8358.6	8860.5	105.961	29.52	67.03	784
185.000	19.213	0.05205	5.3978	36.169	8681.7	9202.2	107.833	29.39	69.75	732
190.000	18.433	0.05425	4.8139	29.508	9017.0	9559.4	109.738	29.36	73.28	673
195.000	17.576	0.05669	4.2477	23.554	9367.7	9936.6	111.697	29.43	77.79	623
200.000	16.624	0.05910	3.7029	18.382	9737.9	10339.5	113.737	29.60	83.53	553
205.000	15.555	0.06249	3.1849	14.058	10132.3	10775.2	115.888	29.85	90.93	517
210.000	14.354	0.06690	2.7001	10.650	10559.3	11252.0	118.186	30.15	99.42	463
215.000	13.032	0.07263	2.2561	8.290	11006.4	11773.7	120.641	30.40	108.25	423
220.000	11.684	0.07855	1.8794	7.233	11466.3	12322.1	123.102	30.28	108.98	403
225.000	10.488	0.08353	1.5870	7.302	11894.2	12877.8	125.525	30.11	100.67	398
230.000	9.501	0.08925	1.3096	7.664	12276.9	13329.4	127.643	29.86	92.22	364
235.000	8.688	0.11510	1.2038	8.172	12620.8	13771.8	129.546	29.60	84.81	382
240.000	8.021	0.12458	1.0753	8.926	12931.1	14177.8	131.256	29.37	77.71	384
245.000	7.474	0.13393	0.9745	9.814	13212.6	14550.0	132.793	29.18	71.62	353
250.000	7.019	0.14247	0.8936	10.730	13471.5	14896.1	134.189	29.02	66.79	392
255.000	6.635	0.15072	0.8272	11.641	13712.9	15220.1	135.473	28.91	62.95	398
260.000	6.304	0.15863	0.7715	12.536	13940.7	15527.0	136.665	28.84	59.90	403
265.000	6.016	0.16622	0.7240	13.415	14157.9	15820.1	137.781	28.60	57.41	408
270.000	5.762	0.17355	0.6830	14.274	14366.3	16101.8	138.835	28.78	55.35	414
275.000	5.536	0.18064	0.6472	15.115	14567.0	16374.3	139.834	28.80	53.07	419
280.000	5.332	0.18753	0.6155	15.938	14763.6	16639.0	140.788	28.84	50.24	424
285.000	5.148	0.19423	0.5874	16.743	14954.8	16897.1	141.702	28.89	51.05	429
290.000	4.981	0.20077	0.5621	17.531	15142.0	17149.7	142.581	28.97	50.04	434
295.000	4.827	0.20716	0.5392	18.303	15326.1	17397.7	143.429	29.06	49.18	439
300.000	4.686	0.21342	0.5185	19.059	15507.5	17641.7	144.249	29.17	48.45	444
310.000	4.433	0.22599	0.4821	20.526	15804.3	18120.2	145.818	29.44	47.35	453
320.000	4.213	0.23735	0.4512	21.940	16215.3	18548.8	147.306	29.75	46.47	462
330.000	4.026	0.24877	0.4246	23.306	16562.7	19000.5	148.726	30.10	45.83	471
340.000	3.847	0.25991	0.4013	24.629	16908.2	19507.3	150.090	30.49	45.51	479
350.000	3.693	0.27031	0.3808	25.913	17253.1	19951.1	151.406	30.90	45.27	485
360.000	3.553	0.28147	0.3625	27.163	17598.3	20443.1	152.679	31.35	45.15	494
370.000	3.425	0.29196	0.3462	28.382	17944.8	20884.4	153.916	31.82	45.14	501
380.000	3.308	0.30227	0.3314	29.573	18293.3	21316.1	155.120	32.31	45.20	508
390.000	3.201	0.31244	0.3180	30.739	18644.3	21756.7	156.296	32.81	45.33	515
400.000	3.101	0.32248	0.3057	31.882	18998.2	22222.9	157.446	33.33	45.52	521
420.000	2.922	0.34219	0.2841	34.106	19710.4	23138.3	159.679	34.40	46.04	533
440.000	2.766	0.35152	0.2656	36.260	20450.2	24065.4	161.835	35.50	46.69	549
460.000	2.628	0.36051	0.2496	38.356	21201.4	25006.5	163.927	36.61	47.43	567
480.000	2.505	0.36923	0.2356	40.401	21971.0	25960.3	165.952	37.73	48.25	587
500.000	2.394	0.41770	0.2232	42.403	22759.6	26936.6	167.949	38.85	49.11	575

METHANE ISOBAR AT P = 110.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/OT BAR/K	OP/DO BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
93.465	28.361	0.03526	20.3797	264.055	3508.7	3390.5	68.341	33.90	52.17	1592
95.000	28.233	0.03542	20.0150	258.469	3585.9	3975.5	69.215	33.86	52.34	1570
100.000	27.844	0.03591	18.8859	241.754	3835.7	4230.8	71.915	33.95	52.98	1533
105.000	27.452	0.03643	17.8123	225.210	4091.7	4492.4	74.516	34.03	53.65	1488
110.000	27.053	0.03696	16.7913	209.035	4352.5	4759.1	77.026	33.96	54.24	1442
115.000	26.648	0.03753	15.8192	193.365	4616.9	5029.6	79.448	33.73	54.69	1398
120.000	26.235	0.03812	14.8920	178.295	4883.7	5303.0	81.783	33.38	55.06	1354
125.000	25.812	0.03874	14.0059	163.880	5152.5	5578.7	84.039	32.98	55.44	1310
130.000	25.380	0.03940	13.1574	150.152	5423.3	5856.7	86.222	32.63	55.90	1266
135.000	24.936	0.04010	12.3434	137.117	5696.4	6137.5	88.342	32.37	56.50	1221
140.000	24.479	0.04085	11.5609	124.766	5972.4	6421.8	90.410	32.21	57.24	1175
145.000	24.008	0.04165	10.8076	113.076	6251.9	6710.1	92.433	32.12	58.10	1129
150.000	23.523	0.04251	10.0811	102.018	6535.2	7002.9	94.418	32.00	59.00	1083
155.000	23.026	0.04344	9.3796	91.556	6822.3	7300.1	96.367	31.76	59.85	1037
160.000	22.517	0.04445	8.7013	81.660	7112.5	7601.4	98.280	31.31	60.62	993
165.000	21.993	0.04555	8.0446	72.304	7405.2	7906.2	100.156	30.66	61.30	949
170.000	21.454	0.04675	7.4082	63.473	7700.1	8214.5	101.996	29.91	62.05	905
175.000	20.884	0.04811	6.7909	55.163	7998.5	8527.7	103.810	29.81	63.07	861
180.000	20.290	0.04953	6.1920	47.386	8304.4	8850.3	105.627	29.34	64.40	817
185.000	19.675	0.05105	5.6110	40.172	8617.8	9182.6	107.447	29.38	65.60	773
190.000	19.041	0.05263	5.0486	33.564	8940.6	9527.2	109.285	29.31	66.75	729
195.000	18.388	0.05436	4.5063	27.616	9274.9	9887.1	111.155	29.32	67.74	685
200.000	17.715	0.05624	3.9868	22.384	9623.2	10255.9	113.073	29.42	68.90	641
205.000	17.023	0.05827	3.4942	17.910	9987.8	10637.5	115.056	29.58	69.92	597
210.000	16.311	0.06045	3.0332	14.248	10371.0	11036.4	117.123	29.78	70.75	553
215.000	15.580	0.06278	2.6090	11.421	10773.1	11555.6	119.283	29.98	71.42	509
220.000	14.829	0.06535	2.2289	9.523	11188.8	12011.9	121.519	29.92	71.93	465
225.000	14.058	0.06817	1.9050	8.672	11601.0	12537.1	123.745	29.36	72.00	421
230.000	13.267	0.07125	1.6471	8.708	11987.9	13013.4	125.839	29.77	72.64	377
235.000	12.456	0.07459	1.4472	9.034	12341.2	13457.3	127.748	29.61	73.09	333
240.000	11.625	0.07829	1.2893	9.457	12665.1	13871.7	129.494	29.44	73.20	289
245.000	10.773	0.08236	1.1625	10.025	12963.9	14250.0	131.095	29.29	73.14	245
250.000	9.900	0.08681	1.0657	10.760	13240.4	14603.6	132.564	29.16	73.03	201
255.000	9.016	0.09165	0.9754	11.593	13497.8	14935.0	133.917	29.06	72.79	157
260.000	8.121	0.09689	0.9051	12.442	13733.8	15248.7	135.170	28.99	72.50	113
265.000	7.215	0.10253	0.8457	13.296	13969.2	15535.0	136.341	28.95	72.10	69
270.000	6.298	0.10857	0.7947	14.130	14188.6	15809.0	137.442	28.94	71.73	25
275.000	5.370	0.11501	0.7503	14.954	14399.8	16173.6	138.484	28.95	71.25	19
280.000	4.441	0.12185	0.7114	15.775	14604.2	16548.7	139.476	28.98	70.74	13
285.000	3.512	0.12909	0.6769	16.577	14803.1	16916.4	140.423	29.04	70.19	7
290.000	2.583	0.13673	0.6461	17.366	14997.3	17277.8	141.333	29.11	69.61	1
295.000	1.654	0.14478	0.6183	18.141	15187.7	17633.8	142.208	29.20	69.01	-5
300.000	0.725	0.15323	0.5933	18.902	15374.9	17985.2	143.053	29.31	68.47	-11
305.000	-0.204	0.16208	0.5696	20.386	15711.9	17976.7	144.665	29.56	68.52	-17
310.000	-1.133	0.17132	0.5496	21.821	16101.5	18456.8	146.189	29.87	67.54	-23
315.000	-2.062	0.18096	0.5313	23.210	16456.4	18928.4	147.640	30.22	66.83	-29
320.000	-2.991	0.19100	0.5136	24.558	16808.4	19394.1	149.031	30.60	66.34	-35
325.000	-3.920	0.20144	0.4959	25.867	17159.1	19855.8	150.369	31.01	66.02	-41
330.000	-4.849	0.21228	0.4802	27.142	17509.5	20314.9	151.662	31.46	65.63	-47
335.000	-5.778	0.22352	0.4681	28.384	17860.7	20772.7	152.917	31.92	65.15	-53
340.000	-6.707	0.23516	0.4579	29.598	18213.4	21230.2	154.137	32.41	64.56	-59
345.000	-7.636	0.24720	0.4494	30.786	18568.3	21688.2	155.326	32.91	63.85	-65
350.000	-8.565	0.25974	0.4422	31.950	18925.7	22147.4	156.489	33.42	63.00	-71
355.000	-9.494	0.27268	0.4373	33.213	19285.3	22607.6	157.623	33.94	62.05	-77
360.000	-10.423	0.28602	0.4342	34.402	19647.6	23069.6	158.718	34.49	61.05	-83
365.000	-11.352	0.29976	0.4329	35.529	20012.5	23533.3	159.774	35.07	60.05	-89
370.000	-12.281	0.31390	0.4334	36.602	20380.0	24000.0	160.791	35.69	59.05	-95
375.000	-13.210	0.32844	0.4357	37.629	20750.0	24468.3	161.768	36.34	58.05	-101
380.000	-14.139	0.34338	0.4398	38.602	21122.5	24939.6	162.705	37.02	57.05	-107
385.000	-15.068	0.35872	0.4457	39.529	21500.0	25413.3	163.602	37.73	56.05	-113
390.000	-16.000	0.37446	0.4534	40.402	21882.5	25890.0	164.468	38.48	55.05	-119
395.000	-16.931	0.39060	0.4629	41.229	22270.0	26369.6	165.303	39.27	54.05	-125
400.000	-17.862	0.40714	0.4742	42.002	22662.5	26851.3	166.107	40.10	53.05	-131

METHANE ISOBAR AT P = 120.0 BAR

T	OEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
93.714	28.380	0.03524	20.3499	265.239	3512.4	3335.2	63.384	33.97	52.14	1593
95.000	28.272	0.03537	20.0460	260.530	3577.3	4031.7	63.118	33.94	52.27	1581
100.000	27.886	0.03586	18.9253	244.013	3826.3	4256.6	71.815	34.02	52.90	1535
105.000	27.496	0.03637	17.8595	227.637	4081.4	4517.8	74.412	34.11	53.57	1493
110.000	27.101	0.03690	16.8458	211.604	4341.3	4734.1	76.917	34.04	54.13	1443
115.000	26.699	0.03745	15.8807	196.055	4604.5	5054.0	79.333	33.81	54.56	1404
120.000	26.290	0.03804	14.9605	181.089	4870.2	5326.6	81.663	33.45	54.91	1361
125.000	25.873	0.03865	14.0814	166.767	5137.6	5601.5	83.912	33.06	55.26	1315
130.000	25.446	0.03930	13.2406	153.122	5406.9	5878.5	86.087	32.70	55.69	1275
135.000	25.008	0.03999	12.4332	140.165	5678.4	6158.2	88.199	32.44	56.25	1231
140.000	24.558	0.04072	11.6583	127.889	5952.5	6441.1	90.257	32.29	56.96	1186
145.000	24.096	0.04150	10.9129	116.275	6229.9	6727.9	92.269	32.19	57.77	1141
150.000	23.619	0.04234	10.1948	105.293	6510.8	7018.9	94.242	32.07	58.61	1095
155.000	23.127	0.04324	9.5022	94.913	6795.1	7314.0	96.177	31.82	59.55	1051
160.000	22.617	0.04421	8.8335	85.102	7082.1	7612.7	98.073	31.37	60.63	1008
165.000	22.088	0.04527	8.1874	75.836	7371.1	7914.4	99.936	30.71	60.61	966
170.000	21.537	0.04643	7.5625	67.096	7661.6	8218.8	101.747	29.96	61.20	924
175.000	20.960	0.04771	6.9581	58.877	7954.7	8527.2	103.533	29.64	62.60	877
180.000	20.353	0.04913	6.3733	51.184	8254.1	8843.7	105.316	29.56	64.04	831
185.000	19.713	0.05073	5.8082	44.039	8559.5	9168.2	107.094	29.38	65.85	784
190.000	19.033	0.05254	5.2631	37.474	8872.3	9502.8	108.878	29.28	68.05	737
195.000	18.306	0.05463	4.7352	31.531	9194.0	9849.5	110.679	29.26	70.71	689
200.000	17.527	0.05705	4.2389	26.252	9529.6	10210.7	112.508	29.30	73.80	642
205.000	16.690	0.05992	3.7650	21.675	9869.9	10588.9	114.376	29.40	77.53	597
210.000	15.790	0.06333	3.3212	17.821	10226.8	10986.8	116.293	29.54	81.67	554
215.000	14.828	0.06744	2.9168	14.706	10596.7	11406.0	118.266	29.69	86.03	515
220.000	13.817	0.07238	2.5374	12.352	10977.8	11846.3	120.290	29.62	89.63	483
225.000	12.788	0.07820	2.2062	10.808	11362.3	12300.6	122.432	29.63	91.59	456
230.000	11.797	0.08477	1.9236	10.114	11739.1	12756.3	124.335	29.60	90.15	433
235.000	10.902	0.09172	1.6932	10.133	12195.2	13195.9	126.226	29.52	85.40	423
240.000	10.124	0.09877	1.5088	10.433	12425.3	13610.6	127.972	29.42	80.51	422
245.000	9.450	0.10582	1.3594	10.820	12732.2	14002.0	129.587	29.32	76.13	419
250.000	8.863	0.11283	1.2364	11.286	13119.3	14373.2	131.086	29.23	72.34	417
255.000	8.352	0.11974	1.1341	11.888	13288.9	14725.7	132.483	29.16	68.71	416
260.000	7.906	0.12648	1.0484	12.610	13542.9	15050.7	133.784	29.10	65.30	420
265.000	7.517	0.13314	0.9759	13.387	13783.6	15330.0	135.001	29.07	62.44	423
270.000	7.174	0.13939	0.9139	14.184	14013.2	15635.8	136.144	29.06	59.95	427
275.000	6.870	0.14556	0.8602	14.983	14233.5	15980.2	137.224	29.08	57.85	431
280.000	6.598	0.15156	0.8133	15.778	14446.2	16254.9	138.250	29.11	56.67	435
285.000	6.353	0.15740	0.7719	16.565	14652.5	16541.4	139.229	29.17	54.55	439
290.000	6.131	0.16311	0.7350	17.343	14853.6	16810.9	140.166	29.24	53.27	444
295.000	5.928	0.16868	0.7019	18.111	15050.2	17074.4	141.067	29.33	52.15	449
300.000	5.743	0.17414	0.6721	18.869	15243.1	17332.8	141.936	29.43	51.21	452
310.000	5.413	0.18474	0.6204	20.352	15620.1	17836.9	143.589	29.68	49.63	461
320.000	5.129	0.19437	0.5770	21.794	15988.3	18327.9	145.148	29.98	48.57	463
330.000	4.881	0.20408	0.5400	23.195	16350.7	18809.2	146.629	30.33	47.74	477
340.000	4.661	0.21452	0.5080	24.557	16709.2	19283.5	148.045	30.71	47.15	485
350.000	4.466	0.22393	0.4801	25.883	17065.7	19752.9	149.406	31.12	46.75	492
360.000	4.289	0.23314	0.4554	27.175	17421.3	20219.0	150.719	31.56	46.43	500
370.000	4.130	0.24216	0.4334	28.430	17777.2	20683.1	151.990	32.02	46.35	507
380.000	3.984	0.25102	0.4137	29.669	18134.1	21140.3	153.226	32.50	46.31	513
390.000	3.850	0.25973	0.3959	30.875	18492.8	21609.6	154.429	33.00	46.35	520
400.000	3.727	0.26832	0.3797	32.056	18853.8	22073.7	155.604	33.52	46.47	525
420.000	3.507	0.28515	0.3514	34.353	19584.7	23016.6	157.880	34.58	46.85	539
440.000	3.315	0.30162	0.3274	36.573	20329.5	23948.9	160.072	35.67	47.40	551
460.000	3.147	0.31775	0.3068	38.727	21090.4	24913.4	162.193	36.78	48.05	562
480.000	2.997	0.33362	0.2888	40.825	21868.5	25872.0	164.254	37.89	48.81	573
500.000	2.863	0.34926	0.2730	42.874	22664.8	26855.9	166.262	39.00	49.61	583

METHANE ISOBAR AT P = 130.0 BAR

T	OEN	VOL	OP/DT	OP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	M/SEC
93.964	28.398	0.03521	20.3205	266.410	3516.1	3373.9	68.427	34.04	52.10	159+
95.000	28.310	0.03532	20.0762	262.557	3568.8	4028.0	69.022	34.02	52.21	1585
100.000	27.926	0.03581	18.9638	246.242	3817.0	4232.5	71.715	34.10	52.63	1542
105.000	27.539	0.03631	17.9056	230.034	4071.3	4543.3	74.309	34.18	53.43	1493
110.000	27.148	0.03684	16.8991	214.142	4330.2	4809.1	76.810	34.12	54.02	1454
115.000	26.750	0.03738	15.9409	198.715	4592.4	5078.4	79.221	33.88	54.43	1411
120.000	26.345	0.03796	15.0275	183.853	4856.9	5350.4	81.544	33.53	54.76	1369
125.000	25.932	0.03856	14.1552	169.621	5123.1	5624.4	83.786	33.13	55.09	1329
130.000	25.510	0.03920	13.3206	156.057	5391.0	5900.6	85.955	32.78	55.49	1283
135.000	25.078	0.03988	12.5208	143.175	5660.8	6179.2	88.058	32.52	56.02	1240
140.000	24.635	0.04059	11.7531	130.971	5933.2	6450.9	90.107	32.36	56.63	1196
145.000	24.181	0.04136	11.0151	119.427	6208.6	6746.2	92.110	32.26	57.45	1151
150.000	23.713	0.04217	10.3049	108.517	6487.2	7035.5	94.071	32.13	58.24	1107
155.000	23.230	0.04305	9.6206	98.211	6768.9	7328.5	95.992	31.89	58.96	1064
160.000	22.733	0.04393	8.9608	88.478	7053.0	7624.9	97.874	31.44	59.53	1022
165.000	22.217	0.04511	8.3242	79.292	7338.6	7923.7	99.713	30.77	59.98	982
170.000	21.682	0.04612	7.7097	70.633	7625.1	8224.7	101.510	30.01	60.44	942
175.000	21.125	0.04734	7.1165	62.493	7913.5	8528.9	103.271	29.88	61.67	897
180.000	20.542	0.04858	6.5440	54.873	8207.3	8840.1	105.024	29.59	62.88	853
185.000	19.931	0.05017	5.9921	47.787	8505.9	9158.2	106.767	29.39	64.36	808
190.000	19.287	0.05185	5.4613	41.259	8810.4	9484.5	108.507	29.27	66.19	763
195.000	18.606	0.05375	4.9524	35.321	9121.9	9820.6	110.254	29.22	68.33	713
200.000	17.883	0.05592	4.4672	30.006	9441.4	10158.3	112.014	29.22	70.81	673
205.000	17.116	0.05843	4.0079	25.342	9769.8	10529.3	113.797	29.27	73.63	633
210.000	16.301	0.06134	3.5771	21.345	10107.7	10905.1	115.608	29.37	76.7+	593
215.000	15.441	0.06476	3.1774	18.020	10455.1	11237.0	117.452	29.48	80.01	552
220.000	14.542	0.06877	2.8109	15.368	10810.9	11704.9	119.327	29.39	82.88	523
225.000	13.619	0.07343	2.4801	13.399	11170.8	12125.3	121.217	29.41	85.05	492
230.000	12.702	0.07873	2.1880	12.130	11529.7	12553.1	123.097	29.42	85.67	463
235.000	11.829	0.08454	1.9376	11.559	11879.2	12978.1	124.925	29.40	83.94	434
240.000	11.035	0.09082	1.7295	11.571	12211.2	13389.2	126.656	29.36	80.30	404
245.000	10.334	0.09677	1.5588	11.051	12522.7	13780.7	128.271	29.30	76.3+	373
250.000	9.716	0.10292	1.4176	12.215	12815.3	14153.4	129.777	29.25	72.81	343
255.000	9.170	0.10906	1.2992	12.637	13091.8	14509.5	131.187	29.20	69.71	313
260.000	8.685	0.11514	1.1989	13.139	13354.1	14850.9	132.513	29.17	66.87	283
265.000	8.255	0.12114	1.1132	13.755	13603.7	15178.5	133.761	29.15	64.13	253
270.000	7.874	0.12701	1.0397	14.453	13842.0	15493.2	134.938	29.16	61.73	223
275.000	7.534	0.13274	0.9762	15.193	14070.7	15796.3	136.050	29.18	59.57	193
280.000	7.229	0.13833	0.9207	15.948	14291.0	16089.3	137.106	29.22	57.69	163
285.000	6.955	0.14379	0.8718	16.767	14504.4	16373.6	138.113	29.27	56.03	133
290.000	6.706	0.14912	0.8284	17.464	14711.9	16650.5	139.076	29.35	54.63	103
295.000	6.479	0.15434	0.7897	18.216	14914.4	16920.8	140.000	29.44	53.43	73
300.000	6.271	0.15945	0.7548	18.961	15112.8	17185.6	140.890	29.54	52.45	43
310.000	5.904	0.16933	0.6945	20.429	15493.5	17701.5	142.582	29.79	50.73	13
320.000	5.587	0.17837	0.6441	21.864	15876.1	18202.8	144.174	30.09	49.54	174
330.000	5.312	0.18827	0.6013	23.265	16245.8	18693.3	145.683	30.43	48.61	481
340.000	5.068	0.19731	0.5645	24.632	16610.9	19175.9	147.124	30.81	47.93	433
350.000	4.851	0.20612	0.5324	25.966	16973.0	19652.7	148.500	31.22	47.45	493
360.000	4.657	0.21474	0.5042	27.269	17333.8	20125.5	149.838	31.66	47.13	503
370.000	4.481	0.22318	0.4791	28.542	17694.3	20595.7	151.126	32.12	46.9+	510
380.000	4.320	0.23147	0.4567	29.788	18055.5	21054.6	152.376	32.60	46.85	517
390.000	4.173	0.23962	0.4365	31.008	18418.0	21533.0	153.593	33.09	46.85	523
400.000	4.038	0.24764	0.4182	32.203	18782.6	22001.9	154.780	33.61	46.93	529
420.000	3.797	0.26335	0.3862	34.528	19519.7	22943.3	157.077	34.66	47.25	542
440.000	3.588	0.27669	0.3593	36.774	20270.0	23833.0	159.286	35.75	47.75	553
460.000	3.405	0.29372	0.3361	38.953	21035.6	24854.0	161.421	36.86	48.37	564
480.000	3.242	0.30849	0.3161	41.073	21818.0	25828.3	163.495	37.97	49.08	575
500.000	3.096	0.32303	0.2985	43.143	22618.0	26817.4	165.513	39.07	49.8+	585

METHANE ISOBAR AT P = 140.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
94.213	28.417	0.03519	20.2913	267.568	3519.9	4012.6	63.470	34.12	52.07	1595
95.000	28.348	0.03528	20.1055	264.551	3560.4	4054.2	63.927	34.09	52.15	1583
100.000	27.967	0.03576	19.0013	248.439	3807.9	4308.5	71.617	34.18	52.76	1540
105.000	27.583	0.03625	17.9507	232.401	4061.3	4558.9	74.207	34.26	53.39	1503
110.000	27.194	0.03677	16.9512	216.652	4319.4	4834.2	76.703	34.19	53.92	1459
115.000	26.800	0.03731	15.9999	201.345	4580.0	5103.0	79.109	33.96	54.31	1417
120.000	26.399	0.03788	15.0931	186.586	4843.9	5374.3	81.427	33.60	54.62	1375
125.000	25.991	0.03848	14.2274	172.445	5108.9	5647.5	83.663	33.21	54.93	1333
130.000	25.574	0.03910	13.3994	158.960	5375.4	5922.8	85.825	32.85	55.31	1292
135.000	25.147	0.03977	12.6063	146.151	5643.7	6200.4	87.921	32.59	55.80	1249
140.000	24.711	0.04047	11.8454	134.014	5914.4	6480.9	89.961	32.43	56.43	1205
145.000	24.263	0.04121	11.1145	122.537	6187.9	6764.9	91.954	32.33	57.15	1162
150.000	23.803	0.04201	10.4117	111.093	6464.4	7052.6	93.904	32.20	57.90	1119
155.000	23.331	0.04280	9.7352	101.455	6743.7	7343.8	95.814	31.95	58.55	1077
160.000	22.843	0.04378	9.0835	91.792	7025.0	7637.9	97.681	31.50	59.06	1035
165.000	22.341	0.04470	8.4556	82.678	7307.5	7934.1	99.504	30.83	59.42	997
170.000	21.820	0.04533	7.8504	74.092	7590.4	8232.0	101.293	30.06	59.76	958
175.000	21.280	0.04639	7.2672	66.021	7874.6	8532.5	103.022	29.33	60.84	919
180.000	20.719	0.04827	6.7054	58.465	8163.4	8839.1	104.750	29.62	61.87	872
185.000	20.132	0.04967	6.1650	51.430	8456.2	9151.6	106.462	29.41	63.14	830
190.000	19.519	0.05123	5.6461	44.935	8753.7	9470.9	108.165	29.27	64.65	787
195.000	18.875	0.05298	5.1496	39.003	9056.8	9798.5	109.866	29.19	66.41	744
200.000	18.198	0.05495	4.6768	33.659	9366.1	10135.4	111.572	29.17	68.41	701
205.000	17.485	0.05719	4.2292	28.925	9682.3	10483.0	113.289	29.19	70.60	661
210.000	16.735	0.05975	3.8090	24.813	10005.8	10842.3	115.020	29.25	73.09	622
215.000	15.951	0.06269	3.4178	21.323	10336.4	11214.1	116.770	29.34	75.63	585
220.000	15.135	0.06607	3.0573	18.450	10673.5	11598.5	118.537	29.22	77.87	554
225.000	14.298	0.06994	2.7287	16.187	11013.9	11993.1	120.311	29.23	79.80	525
230.000	13.456	0.07432	2.4334	14.531	11355.3	12395.7	122.080	29.25	81.02	501
235.000	12.632	0.07917	2.1729	13.476	11692.7	12801.0	123.824	29.26	80.80	482
240.000	11.852	0.08437	1.9483	13.007	12020.4	13201.6	125.510	29.26	79.12	463
245.000	11.140	0.08977	1.7586	13.018	12333.3	13590.1	127.113	29.25	76.15	449
250.000	10.501	0.09523	1.5999	13.282	12629.5	13952.7	128.618	29.23	72.91	434
255.000	9.932	0.10068	1.4664	13.630	12910.2	14319.8	130.033	29.21	69.99	421
260.000	9.423	0.10613	1.3528	14.027	13177.3	14663.1	131.366	29.20	67.40	409
265.000	8.965	0.11154	1.2551	14.475	13432.7	14994.2	132.628	29.20	65.03	400
270.000	8.554	0.11691	1.1706	15.004	13677.5	15314.2	133.824	29.22	62.92	393
275.000	8.184	0.12220	1.0971	15.521	13912.9	15623.7	134.960	29.25	60.83	386
280.000	7.850	0.12739	1.0328	16.298	14140.0	15923.4	136.040	29.30	59.03	382
285.000	7.548	0.13248	0.9761	17.006	14359.7	16214.4	137.070	29.36	57.39	380
290.000	7.275	0.13746	0.9259	17.728	14573.1	16497.6	138.055	29.44	55.94	380
295.000	7.025	0.14235	0.8811	18.453	14781.2	16774.1	139.000	29.53	54.68	381
300.000	6.796	0.14714	0.8409	19.179	14984.7	17044.7	139.910	29.64	53.58	382
310.000	6.391	0.15646	0.7715	20.618	15380.7	17571.2	141.637	29.89	51.80	372
320.000	6.043	0.16548	0.7137	22.034	15765.4	18032.1	143.259	30.19	50.40	373
330.000	5.740	0.17422	0.6649	23.425	16142.2	18581.2	144.795	30.53	49.43	380
340.000	5.473	0.18272	0.6229	24.787	16513.5	19071.6	146.259	30.91	48.67	393
350.000	5.236	0.19100	0.5865	26.121	16881.4	19555.4	147.661	31.31	48.13	400
360.000	5.022	0.19910	0.5545	27.427	17247.2	20034.0	149.011	31.75	47.70	407
370.000	4.830	0.20704	0.5261	28.707	17612.2	20510.8	150.316	32.21	47.50	414
380.000	4.655	0.21482	0.5008	29.960	17977.5	20985.1	151.581	32.69	47.37	420
390.000	4.495	0.22247	0.4781	31.188	18343.9	21458.5	152.810	33.18	47.33	427
400.000	4.348	0.23000	0.4576	32.393	18711.9	21931.9	154.009	33.69	47.37	433
420.000	4.086	0.24474	0.4218	34.739	19455.3	22881.7	156.326	34.75	47.64	440
440.000	3.859	0.25912	0.3917	37.007	20211.0	23838.6	158.552	35.83	48.00	450
460.000	3.660	0.27319	0.3660	39.206	20981.3	24805.9	160.701	36.94	48.67	467
480.000	3.484	0.28700	0.3438	41.346	21767.9	25785.9	162.787	38.04	49.50	478
500.000	3.327	0.30059	0.3243	43.433	22571.7	26780.1	164.816	39.14	50.08	489

METHANE ISOBAR AT P = 150.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
94.461	28.436	0.03517	20.2623	268.712	3523.8	4051.3	68.513	34.19	52.04	1597
95.000	28.386	0.03523	20.1340	260.512	3552.1	4080.5	68.833	34.17	52.14	1592
100.000	28.007	0.03571	19.0360	250.605	3798.9	4334.5	71.520	34.25	52.63	1559
105.000	27.625	0.03620	17.9948	234.737	4051.0	4534.5	74.106	34.33	53.31	1507
110.000	27.240	0.03671	17.0023	219.131	4308.7	4853.3	76.598	34.26	53.82	1465
115.000	26.849	0.03725	16.0576	203.945	4568.9	5127.6	78.999	34.03	54.21	1423
120.000	26.452	0.03780	15.1573	189.290	4831.2	5398.3	81.312	33.67	54.49	1382
125.000	26.048	0.03839	14.2980	175.237	5095.0	5670.8	83.542	33.28	54.77	1341
130.000	25.636	0.03901	13.4764	161.830	5360.1	5945.2	85.697	32.92	55.12	1300
135.000	25.215	0.03965	12.6898	149.091	5627.0	6221.9	87.786	32.56	55.53	1259
140.000	24.785	0.04035	11.9355	137.020	5896.1	6501.3	89.818	32.20	56.19	1217
145.000	24.344	0.04103	11.2113	125.005	6167.8	6783.9	91.802	32.40	56.88	1172
150.000	23.892	0.04185	10.5154	114.824	6442.3	7070.1	93.742	32.27	57.57	1130
155.000	23.428	0.04268	9.8461	104.646	6719.3	7359.0	95.640	32.02	58.13	1084
160.000	22.951	0.04357	9.2021	95.049	6998.1	7651.7	97.494	31.56	58.62	1044
165.000	22.459	0.04453	8.5822	86.000	7277.7	7945.6	99.303	30.88	58.90	1011
170.000	21.952	0.04555	7.9855	77.479	7557.3	8240.6	101.064	30.11	59.14	974
175.000	21.428	0.04657	7.4111	69.471	7837.7	8537.7	102.784	29.37	59.11	932
180.000	20.885	0.04788	6.8588	61.971	8122.1	8840.4	104.489	29.06	59.93	891
185.000	20.320	0.04921	6.3283	54.982	8409.7	9147.9	106.174	29.43	62.07	850
190.000	19.733	0.05058	5.8198	48.516	8701.2	9451.4	107.846	29.28	63.44	809
195.000	19.120	0.05230	5.3337	42.589	8997.2	9751.7	109.510	29.19	64.82	768
200.000	18.486	0.05411	4.8712	37.222	9298.1	10049.3	111.172	29.14	66.47	726
205.000	17.811	0.05614	4.4334	32.430	9604.5	10346.7	112.835	29.14	68.30	683
210.000	17.113	0.05843	4.0217	28.223	9916.5	10793.1	114.505	29.17	70.27	641
215.000	16.387	0.06192	3.6376	24.600	10234.1	11149.5	116.182	29.23	72.30	600
220.000	15.636	0.06390	3.2822	21.551	10556.0	11516.0	117.857	29.09	74.07	559
225.000	14.867	0.06726	2.9561	19.064	10881.7	11890.7	119.551	29.09	75.75	515
230.000	14.089	0.07098	2.6601	17.127	11208.1	12272.8	121.230	29.11	77.99	471
235.000	13.319	0.07503	2.3946	15.726	11533.0	12659.2	122.892	29.14	79.44	428
240.000	12.573	0.07954	2.1601	14.847	11852.4	13045.5	124.519	29.16	80.83	384
245.000	11.870	0.08425	1.9565	14.456	12162.4	13426.1	126.089	29.18	82.52	342
250.000	11.223	0.08910	1.7823	14.473	12463.8	13796.3	127.585	29.19	84.75	300
255.000	10.638	0.09403	1.6342	14.723	12743.3	14153.3	128.999	29.20	87.07	258
260.000	10.111	0.09890	1.5078	15.058	13013.8	14497.4	130.335	29.21	89.61	216
265.000	9.635	0.10373	1.3969	15.439	13272.9	14829.8	131.601	29.23	92.42	174
270.000	9.203	0.10856	1.3043	15.859	13522.0	15151.9	132.806	29.26	95.45	132
275.000	8.811	0.11350	1.2214	16.329	13762.2	15464.7	133.953	29.31	98.67	89
280.000	8.454	0.11829	1.1485	16.874	13994.4	15758.5	135.049	29.36	102.13	46
285.000	8.129	0.12302	1.0841	17.487	14213.5	16044.8	136.097	29.43	105.82	3
290.000	7.833	0.12767	1.0269	18.144	14438.2	16333.2	137.111	29.52	109.93	
295.000	7.562	0.13224	0.9758	18.826	14651.3	16634.9	138.064	29.61	114.71	
300.000	7.313	0.13674	0.9300	19.519	14859.5	16910.6	138.930	29.72	119.53	
310.000	6.843	0.14550	0.8512	20.914	15264.2	17446.0	140.748	29.98	127.71	
320.000	6.494	0.15398	0.7857	22.302	15656.0	17906.2	142.393	30.28	137.28	
330.000	6.165	0.16221	0.7304	23.673	16040.2	18473.3	143.958	30.62	148.19	
340.000	5.875	0.17022	0.6831	25.023	16417.0	18970.9	145.444	31.00	159.75	
350.000	5.617	0.17804	0.6421	26.350	16790.8	19461.4	146.866	31.40	172.05	
360.000	5.386	0.18558	0.6061	27.652	17161.2	19946.7	148.233	31.84	185.33	
370.000	5.177	0.19316	0.5744	28.931	17531.1	20426.5	149.553	32.30	199.64	
380.000	4.988	0.20050	0.5461	30.187	17900.5	20907.9	150.832	32.78	215.07	
390.000	4.814	0.20771	0.5208	31.419	18270.5	21386.2	152.074	33.27	231.63	
400.000	4.655	0.21480	0.4979	32.630	18642.0	21864.1	153.284	33.78	249.33	
420.000	4.373	0.22869	0.4582	34.989	19391.5	22821.8	155.020	34.83	280.61	
440.000	4.129	0.24222	0.4248	37.273	20152.5	23735.8	157.462	35.91	314.41	
460.000	3.915	0.25545	0.3964	39.488	20927.5	24759.3	160.026	37.01	350.95	
480.000	3.725	0.26843	0.3719	41.644	21718.3	25744.8	162.123	38.12	390.61	
500.000	3.556	0.28120	0.3505	43.747	22525.9	26743.9	164.162	39.21	433.32	

METHANE ISOBAR AT P = 160.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
34.709	28.455	0.03514	20.2336	269.843	3527.7	4030.0	68.556	34.26	52.01	1594
35.000	28.423	0.03518	20.1617	268.440	3544.0	4106.9	68.740	34.24	52.05	1535
100.000	28.047	0.03565	19.0738	252.740	3790.1	4360.5	71.423	34.32	52.62	1554
105.000	27.666	0.03614	18.0379	237.044	4041.9	4620.2	74.006	34.40	53.23	1512
110.000	27.285	0.03665	17.0524	221.582	4298.2	4884.0	76.494	34.34	53.73	1473
115.000	26.898	0.03718	16.1142	206.517	4557.5	5152.3	78.891	34.10	54.03	1429
120.000	26.505	0.03773	15.2202	191.964	4818.7	5422.4	81.199	33.75	54.36	1384
125.000	26.105	0.03831	14.3671	178.000	5081.3	5694.3	83.423	33.35	54.62	1348
130.000	25.697	0.03891	13.5517	164.670	5345.2	5967.9	85.571	32.99	54.95	1307
135.000	25.282	0.03955	12.7713	151.999	5610.7	6243.6	87.653	32.73	55.40	1269
140.000	24.857	0.04023	12.0233	139.991	5878.2	6521.9	89.677	32.57	55.97	1225
145.000	24.422	0.04095	11.3056	128.635	6148.2	6803.4	91.653	32.46	56.62	1183
150.000	23.978	0.04171	10.6163	117.912	6420.8	7086.1	93.583	32.33	57.27	1141
155.000	23.522	0.04251	9.9538	107.794	6695.8	7370.0	95.471	32.08	57.63	1101
160.000	23.054	0.04338	9.3169	98.254	6972.2	7656.2	97.313	31.62	58.22	1062
165.000	22.573	0.04430	8.7044	89.264	7249.1	7957.9	99.108	30.94	58.43	1025
170.000	22.079	0.04529	8.1153	80.801	7525.7	8250.3	100.855	30.16	58.59	989
175.000	21.568	0.04636	7.5491	72.849	7802.6	8544.4	102.557	30.02	59.45	949
180.000	21.042	0.04752	7.0052	65.399	8083.1	8843.5	104.242	29.59	60.20	909
185.000	20.497	0.04879	6.4834	58.450	8366.1	9146.7	105.903	29.46	61.13	869
190.000	19.932	0.05017	5.9838	52.010	8652.3	9455.0	107.548	29.30	62.22	830
195.000	19.346	0.05169	5.5068	46.090	8942.2	9769.2	109.180	29.19	63.47	793
200.000	18.737	0.05337	5.0530	40.704	9230.0	10090.0	110.804	29.13	64.86	757
205.000	18.104	0.05524	4.6234	35.864	9534.3	10418.0	112.424	29.10	66.33	714
210.000	17.448	0.05731	4.2191	31.577	9836.9	10754.0	114.043	29.11	68.00	673
215.000	16.769	0.05954	3.8419	27.842	10144.0	11098.1	115.662	29.15	69.67	644
220.000	16.069	0.06223	3.4898	24.648	10454.9	11450.0	117.283	29.00	71.09	614
225.000	15.355	0.06513	3.1662	21.981	10767.0	11809.7	118.897	28.98	72.51	585
230.000	14.632	0.06834	2.8703	19.824	11081.7	12175.2	120.503	29.00	73.65	560
235.000	13.911	0.07189	2.6022	18.160	11395.2	12545.4	122.096	29.03	74.32	535
240.000	13.203	0.07574	2.3619	16.970	11705.5	12917.3	123.662	29.07	74.33	510
245.000	12.523	0.07985	2.1491	16.231	12009.7	13293.7	125.188	29.11	73.55	505
250.000	11.883	0.08415	1.9629	15.908	12305.1	13651.6	126.659	29.14	72.02	490
255.000	11.291	0.08855	1.8019	15.932	12599.6	14000.6	128.066	29.17	69.93	494
260.000	10.752	0.09301	1.6632	16.171	12862.5	14350.6	129.401	29.20	67.67	493
265.000	10.261	0.09745	1.5433	16.490	13124.3	14683.6	130.670	29.24	65.53	490
270.000	9.815	0.10199	1.4389	16.864	13376.5	15006.7	131.878	29.29	63.73	475
275.000	9.400	0.10631	1.3473	17.286	13620.0	15320.9	133.031	29.34	62.02	477
280.000	9.033	0.11071	1.2665	17.703	13855.9	15627.2	134.135	29.41	60.51	475
285.000	8.690	0.11507	1.1946	18.192	14084.9	15926.1	135.193	29.49	59.03	477
290.000	8.375	0.11940	1.1306	18.745	14307.9	16218.2	136.209	29.58	57.77	475
295.000	8.080	0.12357	1.0733	19.351	14525.3	16504.0	137.186	29.68	56.54	473
300.000	7.820	0.12788	1.0218	19.990	14737.7	16783.8	138.127	29.80	55.42	471
310.000	7.347	0.13611	0.9332	21.318	15150.3	17326.1	139.912	30.06	53.52	485
320.000	6.939	0.14411	0.8597	22.656	15499.9	17855.6	141.587	30.36	52.03	492
330.000	6.584	0.15197	0.7970	24.009	15933.9	18369.9	143.170	30.71	50.89	494
340.000	6.272	0.15944	0.7449	25.339	16323.1	18874.2	144.675	31.08	50.01	504
350.000	5.994	0.16683	0.6991	26.651	16701.6	19370.3	146.115	31.49	49.35	510
360.000	5.745	0.17405	0.6591	27.945	17077.1	19851.9	147.498	31.93	48.88	513
370.000	5.521	0.18112	0.6238	29.218	17451.0	20349.0	148.833	32.38	48.55	523
380.000	5.317	0.18806	0.5925	30.470	17824.4	20833.4	150.124	32.86	48.34	529
390.000	5.131	0.19488	0.5644	31.702	18198.1	21316.2	151.379	33.35	48.24	535
400.000	4.961	0.20159	0.5390	32.914	18572.9	21798.4	152.599	33.86	48.21	545
420.000	4.657	0.21471	0.4952	35.280	19328.5	22763.8	154.955	34.91	48.37	552
440.000	4.396	0.22749	0.4585	37.573	20094.7	23734.6	157.212	35.99	48.73	553
460.000	4.167	0.23999	0.4273	39.801	20874.4	24714.1	159.390	37.09	49.24	574
480.000	3.965	0.25224	0.4004	41.969	21669.2	25705.0	161.498	38.19	49.85	584
500.000	3.784	0.26428	0.3770	44.084	22480.5	26718.9	163.547	39.29	50.55	595

METHANE ISOBAR AT P = 170.0 BAR

T	DEN	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/10L/K	1/SEC
94.956	28.473	0.03512	20.2052	270.961	3531.7	4128.7	68.599	34.33	51.98	1593
95.000	28.460	0.03514	20.1885	270.335	3535.9	4133.2	68.647	34.32	52.01	1593
100.000	28.086	0.03560	19.1087	254.843	3781.3	4386.6	71.328	34.40	52.50	1553
105.000	27.710	0.03609	18.0802	239.322	4032.4	4655.9	73.907	34.47	53.15	1517
110.000	27.330	0.03659	17.1014	224.004	4287.9	4909.9	76.391	34.41	53.63	1475
115.000	26.946	0.03711	16.1696	209.061	4546.3	5177.1	78.784	34.17	53.98	1435
120.000	26.556	0.03760	15.2819	194.610	4806.5	5446.6	81.086	33.82	54.23	1395
125.000	26.161	0.03823	14.4348	180.733	5068.0	5717.8	83.305	33.42	54.43	1355
130.000	25.758	0.03882	13.6254	167.479	5330.7	5990.7	85.447	33.06	54.73	1315
135.000	25.347	0.03945	12.8510	154.875	5594.8	6265.5	87.523	32.80	55.21	1275
140.000	24.928	0.04012	12.1091	142.927	5860.8	6542.8	89.540	32.63	55.75	1234
145.000	24.499	0.04082	11.3975	131.028	6129.2	6823.1	91.507	32.53	56.37	1192
150.000	24.061	0.04155	10.7145	120.959	6400.0	7106.5	93.428	32.40	56.93	1152
155.000	23.613	0.04235	10.0584	110.895	6672.9	7392.9	95.306	32.14	57.50	1112
160.000	23.154	0.04319	9.4281	101.409	6947.1	7681.3	97.137	31.68	57.84	1074
165.000	22.683	0.04409	8.8224	92.472	7221.5	7971.0	98.920	31.00	57.93	1035
170.000	22.200	0.04505	8.2405	84.062	7495.3	8261.1	100.652	30.21	58.03	1000
175.000	21.703	0.04608	7.6816	76.161	7769.1	8552.4	102.338	30.07	58.85	964
180.000	21.191	0.04719	7.1452	68.756	8046.0	8848.2	104.005	29.73	59.50	929
185.000	20.663	0.04840	6.6312	61.844	8325.0	9147.7	105.646	29.49	60.30	895
190.000	20.118	0.04971	6.1395	55.427	8606.5	9451.5	107.266	29.32	61.24	860
195.000	19.555	0.05114	5.6703	49.513	8891.0	9760.3	108.871	29.20	62.31	826
200.000	18.973	0.05271	5.2241	44.112	9173.8	10074.8	110.463	29.12	63.50	794
205.000	18.371	0.05443	4.8016	39.232	9470.1	10395.5	112.046	29.08	64.73	763
210.000	17.749	0.05634	4.4039	34.877	9764.9	10722.7	113.624	29.06	66.14	733
215.000	17.105	0.05845	4.0305	31.047	10063.3	11056.9	115.196	29.10	67.53	703
220.000	16.452	0.06078	3.6832	27.730	10364.7	11398.0	116.765	29.33	69.03	674
225.000	15.782	0.06330	3.3619	24.913	10667.3	11744.5	118.322	29.90	70.69	645
230.000	15.104	0.06621	3.0685	22.576	10971.1	12093.6	119.869	29.91	72.51	617
235.000	14.426	0.06932	2.7970	20.701	11274.7	12453.1	121.403	29.95	74.62	589
240.000	13.756	0.07269	2.5529	19.266	11576.3	12812.1	122.914	29.99	76.83	562
245.000	13.104	0.07631	2.3339	18.250	11873.5	13171.1	124.395	29.04	79.12	535
250.000	12.481	0.08012	2.1393	17.027	12165.1	13527.2	125.834	29.09	81.53	508
255.000	11.893	0.08408	1.9679	15.360	12448.3	13877.7	127.222	29.13	84.05	483
260.000	11.340	0.08812	1.8162	13.994	12722.1	14220.1	128.552	29.18	86.64	457
265.000	10.848	0.09210	1.6878	12.823	12985.9	14553.0	129.820	29.24	89.34	434
270.000	10.390	0.09625	1.5739	11.940	13240.4	14875.6	131.030	29.30	92.14	411
275.000	9.969	0.10031	1.4738	11.299	13486.4	15191.7	132.186	29.37	95.01	389
280.000	9.583	0.10435	1.3853	10.888	13725.0	15499.1	133.294	29.44	97.93	367
285.000	9.227	0.10838	1.3065	10.105	13957.0	15799.5	134.357	29.53	100.94	345
290.000	8.898	0.11238	1.2360	9.550	14183.1	16093.7	135.361	29.63	104.04	323
295.000	8.594	0.11635	1.1727	9.060	14403.9	16382.1	136.357	29.74	107.21	301
300.000	8.313	0.12030	1.1157	8.616	14620.0	16665.0	137.318	29.86	110.47	279
310.000	7.810	0.12803	1.0172	7.835	15039.6	17210.1	139.125	30.13	117.73	235
320.000	7.376	0.13557	0.9356	7.122	15445.7	17500.4	140.821	30.44	125.03	191
330.000	6.997	0.14291	0.8609	6.428	15841.8	18271.3	142.424	30.79	132.33	147
340.000	6.664	0.15007	0.8082	5.731	16230.5	19011.7	143.948	31.16	140.63	103
350.000	6.367	0.15706	0.7575	5.024	16614.0	19284.0	145.404	31.57	149.91	59
360.000	6.101	0.16390	0.7133	4.303	16994.4	19760.4	146.803	32.01	159.19	15
370.000	5.861	0.17061	0.6744	3.560	17372.1	20272.4	148.151	32.47	168.47	29
380.000	5.644	0.17719	0.6398	3.011	17749.3	20761.5	149.455	32.94	177.75	33
390.000	5.445	0.18365	0.6088	2.538	18126.6	21246.6	150.720	33.44	187.03	37
400.000	5.263	0.19001	0.5810	2.147	18504.7	21734.9	151.951	33.94	196.31	41
420.000	4.940	0.20245	0.5329	1.612	19266.1	22707.7	154.325	34.99	196.72	50
440.000	4.661	0.21456	0.4927	1.191	20037.5	23685.0	156.598	36.07	197.04	57
460.000	4.417	0.22639	0.4587	0.845	20821.7	24670.4	158.788	37.16	197.36	64
480.000	4.202	0.23799	0.4294	0.522	21620.6	25666.5	160.907	38.26	197.68	71
500.000	4.010	0.24933	0.4033	0.240	22435.5	26675.2	162.966	39.36	198.00	78

METHANE ISOBAR AT P = 180.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/10L/K	1/SEC
95.000	28.492	0.03510	20.1771	272.066	3535.7	4107.5	68.642	34.41	51.95	1600
100.000	28.125	0.03556	19.1428	250.916	3772.7	4127.7	71.233	34.47	52.53	1562
105.000	27.751	0.03603	18.1215	241.569	4023.1	4671.7	73.809	34.54	53.08	1521
110.000	27.375	0.03653	17.1494	226.398	4277.7	4935.3	76.290	34.48	53.55	1480
115.000	26.994	0.03705	16.2240	211.576	4535.2	5212.0	78.678	34.24	53.83	1441
120.000	26.607	0.03758	15.3423	197.228	4794.5	5471.0	80.976	33.89	54.11	1401
125.000	26.215	0.03815	14.5011	183.438	5054.9	5741.5	83.189	33.49	54.34	1362
130.000	25.817	0.03873	13.6970	170.259	5316.4	6013.6	85.326	33.13	54.63	1323
135.000	25.411	0.03935	12.9290	157.720	5579.2	6287.6	87.395	32.87	55.03	1283
140.000	24.997	0.04001	12.1929	145.831	5843.9	6554.0	89.405	32.70	55.54	1243
145.000	24.574	0.04069	11.4972	134.586	6110.7	6843.1	91.364	32.59	56.14	1202
150.000	24.143	0.04142	10.8161	123.968	6379.8	7125.3	93.277	32.46	56.72	1162
155.000	23.702	0.04219	10.1602	113.954	6650.8	7410.2	95.145	32.21	57.20	1123
160.000	23.251	0.04301	9.5361	104.517	6922.9	7697.1	96.966	31.74	57.45	1083
165.000	22.790	0.04388	8.9367	95.630	7195.0	7984.9	98.737	31.05	57.59	1051
170.000	22.317	0.04481	8.3613	87.268	7466.2	8272.8	100.457	30.27	57.61	1019
175.000	21.831	0.04581	7.8091	79.412	7737.1	8561.0	102.128	30.11	58.31	979
180.000	21.333	0.04688	7.2796	72.048	8010.7	8854.5	103.778	29.78	58.87	942
185.000	20.821	0.04803	6.7726	65.168	8286.0	9150.5	105.400	29.53	59.57	903
190.000	20.293	0.04929	6.2879	58.773	8563.3	9450.3	107.000	29.35	60.33	863
195.000	19.750	0.05063	5.8256	52.866	8843.1	9754.5	108.530	29.21	61.31	822
200.000	19.191	0.05211	5.3861	47.452	9125.0	10063.5	110.145	29.12	62.32	782
205.000	18.615	0.05372	4.9697	42.538	9410.9	10377.9	111.697	29.07	63.42	741
210.000	18.023	0.05548	4.5770	38.125	9699.1	10697.9	113.239	29.05	64.58	702
215.000	17.415	0.05742	4.2085	34.213	9990.1	11023.7	114.772	29.06	65.76	663
220.000	16.794	0.05955	3.8646	30.791	10283.6	11355.4	116.298	28.88	66.71	625
225.000	16.161	0.06188	3.5454	27.845	10577.8	11691.6	117.808	28.84	67.73	587
230.000	15.522	0.06442	3.2507	25.356	10872.9	12032.5	119.307	28.84	68.63	550
235.000	14.881	0.06720	2.9803	23.305	11167.9	12377.5	120.791	28.88	69.32	513
240.000	14.246	0.07020	2.7337	21.671	11461.6	12725.2	122.255	28.92	69.70	477
245.000	13.622	0.07341	2.5103	20.430	11752.8	13073.9	123.693	28.88	69.70	442
250.000	13.019	0.07681	2.3056	19.560	12038.9	13421.5	125.097	29.04	69.25	407
255.000	12.444	0.08030	2.1304	19.032	12319.2	13769.7	126.460	29.10	68.37	373
260.000	11.902	0.08402	1.9717	18.814	12592.1	14104.5	127.776	29.16	67.09	339
265.000	11.397	0.08774	1.8319	18.857	12856.7	14430.1	129.040	29.23	65.54	305
270.000	10.930	0.09149	1.7089	19.080	13112.9	14759.7	130.249	29.30	63.83	271
275.000	10.500	0.09524	1.6005	19.389	13361.0	15075.2	131.407	29.38	62.34	237
280.000	10.103	0.09898	1.5045	19.740	13601.7	15383.3	132.518	29.47	60.92	203
285.000	9.737	0.10270	1.4189	20.119	13835.0	15684.7	133.584	29.57	59.65	169
290.000	9.397	0.10641	1.3423	20.523	14064.6	15980.0	134.612	29.67	58.50	135
295.000	9.082	0.11011	1.2733	20.953	14287.9	16259.9	135.603	29.79	57.45	101
300.000	8.789	0.11378	1.2109	21.418	14506.7	16534.8	136.560	29.91	56.50	67
310.000	8.262	0.12104	1.1029	22.464	14932.2	17110.9	138.384	30.19	54.75	30
320.000	7.804	0.12814	1.0131	23.679	15344.3	17660.9	140.099	30.51	53.23	503
330.000	7.403	0.13519	0.9374	24.930	15745.9	18177.5	141.719	30.86	52.03	512
340.000	7.049	0.14137	0.8729	26.199	16139.6	18633.4	143.259	31.24	51.14	517
350.000	6.734	0.14850	0.8172	27.460	16528.0	19020.0	144.731	31.55	50.42	522
360.000	6.452	0.15493	0.7686	28.726	16912.4	19372.3	146.143	32.09	49.87	528
370.000	6.197	0.16130	0.7259	29.973	17294.5	20138.9	147.504	32.54	49.48	533
380.000	5.960	0.16761	0.6880	31.207	17675.4	20992.3	148.820	33.02	49.21	538
390.000	5.755	0.17375	0.6541	32.426	18056.0	21183.0	150.096	33.52	49.05	544
400.000	5.562	0.17979	0.6237	33.629	18437.4	21673.7	151.336	34.02	48.98	549
420.000	5.219	0.19161	0.5712	35.987	19204.6	22653.5	153.727	35.07	49.05	550
440.000	4.923	0.20312	0.5275	38.284	19981.0	23637.1	155.015	36.15	49.34	551
460.000	4.665	0.21430	0.4905	40.521	20769.7	24628.2	156.217	37.24	49.79	551
480.000	4.437	0.22538	0.4587	42.702	21572.6	25629.3	160.348	38.33	50.35	551
500.000	4.234	0.23619	0.4311	44.833	22391.1	26642.6	162.416	39.43	50.99	601

METHANE ISOBAR AT P = 190.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
95.448	28.510	0.03509	20.1492	273.157	3539.8	4206.2	68.685	34.48	51.93	1601
100.000	28.164	0.03551	19.1761	258.957	3764.3	4438.9	71.140	34.54	52.44	1506
105.000	27.793	0.03598	18.1620	243.787	4013.9	4637.6	73.712	34.61	53.01	1520
110.000	27.419	0.03647	17.1964	228.763	4267.8	4860.7	76.169	34.55	53.46	1430
115.000	27.041	0.03698	16.2772	214.064	4524.4	5227.0	78.573	34.31	53.78	1440
120.000	26.658	0.03751	15.4015	199.819	4782.7	5495.4	80.867	33.95	54.00	1407
125.000	26.270	0.03807	14.5661	186.116	5042.1	5765.4	83.075	33.56	54.21	1369
130.000	25.875	0.03865	13.7683	173.011	5302.4	6036.7	85.206	33.20	54.47	1330
135.000	25.474	0.03926	13.0053	160.536	5564.0	6309.9	87.269	32.93	54.85	1291
140.000	25.065	0.03990	12.2748	148.704	5827.3	6585.3	89.272	32.77	55.30	1251
145.000	24.648	0.04057	11.5747	137.510	6092.6	6863.5	91.224	32.66	55.91	1211
150.000	24.223	0.04128	10.9034	126.941	6360.1	7144.5	93.129	32.53	56.47	1172
155.000	23.789	0.04204	10.2592	116.974	6629.4	7428.0	94.988	32.27	56.91	1134
160.000	23.346	0.04283	9.6409	107.583	6899.5	7713.3	96.800	31.86	57.15	1096
165.000	22.893	0.04368	9.0475	98.740	7169.4	7999.4	98.560	31.11	57.21	1060
170.000	22.429	0.04458	8.4762	90.422	7438.2	8285.3	100.267	30.32	57.15	1031
175.000	21.955	0.04555	7.9322	82.667	7706.4	8571.8	101.926	30.16	57.81	993
180.000	21.469	0.04658	7.4090	75.279	7977.0	8852.0	103.561	29.82	58.30	955
185.000	20.970	0.04769	6.9082	68.429	8248.9	9155.0	105.166	29.57	58.90	922
190.000	20.459	0.04886	6.4298	62.054	8522.5	9451.2	106.746	29.37	59.62	885
195.000	19.934	0.05017	5.9737	56.153	8798.1	9751.3	108.305	29.23	60.42	851
200.000	19.395	0.05156	5.5400	50.729	9075.9	10055.6	109.845	29.14	61.30	815
205.000	18.842	0.05307	5.1290	45.785	9356.0	10364.4	111.371	29.07	62.25	782
210.000	18.275	0.05472	4.7411	41.324	9638.5	10678.2	112.883	29.04	63.24	749
215.000	17.695	0.05651	4.3766	37.340	9923.2	10996.3	114.383	29.03	64.29	715
220.000	17.103	0.05847	4.0357	33.826	10209.9	11320.7	115.872	28.84	65.60	690
225.000	16.503	0.06060	3.7184	30.768	10496.9	11648.2	117.343	28.79	66.92	663
230.000	15.896	0.06291	3.4244	28.148	10784.6	11979.8	118.801	28.75	68.71	638
235.000	15.288	0.06541	3.1535	25.947	11072.2	12315.1	120.243	28.82	70.36	615
240.000	14.683	0.06811	2.9051	24.144	11359.0	12653.0	121.666	28.87	72.73	594
245.000	14.087	0.07099	2.6786	22.716	11643.6	12992.4	123.066	28.93	75.92	577
250.000	13.505	0.07404	2.4732	21.540	11924.9	13331.7	124.436	28.99	79.74	561
255.000	12.945	0.07725	2.2882	20.692	12201.5	13669.2	125.773	29.06	84.20	549
260.000	12.412	0.08067	2.1224	20.445	12472.3	14003.1	127.070	29.14	89.32	539
265.000	11.909	0.08337	1.9746	20.269	12736.4	14331.9	128.323	29.22	95.16	531
270.000	11.438	0.08743	1.8434	20.322	12993.3	14654.4	129.528	29.30	103.81	520
275.000	11.001	0.09090	1.7271	20.539	13242.9	14969.9	130.686	29.39	114.33	511
280.000	10.597	0.09437	1.6237	20.842	13485.4	15278.4	131.798	29.49	127.03	513
285.000	10.221	0.09784	1.5315	21.186	13721.6	15580.5	132.867	29.59	141.80	517
290.000	9.873	0.10129	1.4488	21.558	13952.1	15876.6	133.897	29.71	159.63	519
295.000	9.548	0.10473	1.3743	21.951	14177.6	16157.4	134.892	29.83	181.67	514
300.000	9.246	0.10816	1.3069	22.366	14398.5	16433.4	135.853	29.96	209.76	514
310.000	8.699	0.11435	1.1897	23.282	14828.7	17012.8	137.687	30.25	251.13	514
320.000	8.220	0.12135	1.0918	24.349	15245.9	17557.2	139.416	30.57	293.76	517
330.000	7.799	0.12822	1.0092	25.521	15652.5	18088.6	141.051	30.93	348.53	520
340.000	7.427	0.13455	0.9387	26.740	16051.1	18609.4	142.606	31.31	416.62	524
350.000	7.095	0.14035	0.8779	27.975	16443.8	19121.8	144.091	31.73	500.89	529
360.000	6.797	0.14712	0.8249	29.210	16832.4	19627.6	145.516	32.16	603.31	534
370.000	6.526	0.15317	0.7783	30.439	17218.2	20128.6	146.889	32.62	729.90	539
380.000	6.285	0.15912	0.7370	31.658	17602.7	20626.0	148.215	33.10	884.61	544
390.000	6.062	0.16497	0.7002	32.865	17986.7	21121.1	149.501	33.59	1074.43	549
400.000	5.850	0.17072	0.6671	34.055	18371.1	21614.8	150.751	34.10	1303.33	554
420.000	5.495	0.18137	0.6161	36.405	19143.9	22601.4	153.158	35.15	1934.37	569
440.000	5.183	0.19233	0.5627	38.695	19925.3	23591.0	155.469	36.22	2648.62	575
460.000	4.911	0.20334	0.5227	40.930	20718.3	24587.5	157.675	37.31	3500.64	580
480.000	4.670	0.21413	0.4883	43.112	21525.1	25593.5	159.815	38.41	4500.53	590
500.000	4.456	0.22442	0.4585	45.246	22347.1	26611.2	161.892	39.50	5712.20	600

METHANE ISOBAR AT P = 200.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	M/SEC
95.094	28.528	0.03505	20.1215	274.236	3543.9	4244.9	68.728	34.55	51.91	1603
100.000	28.202	0.03540	19.2086	260.967	3755.9	4465.1	71.047	34.61	52.33	1569
105.000	27.833	0.03593	18.2015	245.970	4004.9	4723.4	73.616	34.68	52.94	1530
110.000	27.462	0.03641	17.2425	231.099	4257.9	4986.2	76.090	34.62	53.39	1490
115.000	27.087	0.03692	16.3295	216.524	4513.7	5252.1	78.470	34.38	53.63	1452
120.000	26.708	0.03744	15.4595	202.382	4771.1	5520.0	80.759	34.02	53.89	1414
125.000	26.323	0.03799	14.6298	188.760	5029.5	5789.3	82.963	33.62	54.03	1376
130.000	25.932	0.03856	13.8375	175.735	5288.8	6050.0	85.088	33.27	54.33	1338
135.000	25.535	0.03916	13.0860	163.322	5549.2	6332.4	87.145	33.00	54.69	1299
140.000	25.131	0.03979	12.3549	151.545	5811.1	6607.0	89.142	32.83	55.13	1260
145.000	24.720	0.04045	11.6603	140.402	6075.6	6884.1	91.087	32.72	55.71	1221
150.000	24.301	0.04115	10.9944	129.879	6341.0	7164.0	92.984	32.59	56.23	1182
155.000	23.873	0.04189	10.3557	119.950	6608.5	7446.3	94.835	32.33	56.64	1145
160.000	23.437	0.04267	9.7429	110.607	6876.8	7730.1	96.637	31.86	56.85	1109
165.000	22.992	0.04349	9.1551	101.806	7144.4	8014.5	98.387	31.16	56.85	1073
170.000	22.538	0.04437	8.5914	93.527	7411.2	8296.6	100.084	30.37	56.79	1034
175.000	22.074	0.04530	8.0511	85.749	7676.9	8582.9	101.730	30.21	57.35	1007
180.000	21.599	0.04630	7.5337	78.455	7944.7	8870.7	103.351	29.36	57.77	973
185.000	21.113	0.04730	7.0387	71.632	8213.6	9150.9	104.941	29.60	58.31	939
190.000	20.616	0.04831	6.5659	65.275	8483.8	9433.9	106.504	29.41	58.93	903
195.000	20.107	0.04937	6.1153	59.380	8755.7	9700.3	108.044	29.26	59.63	869
200.000	19.586	0.05040	5.6868	53.948	9029.3	9950.4	109.563	29.15	60.40	835
205.000	19.053	0.05149	5.2807	48.979	9304.8	10354.5	111.065	29.06	61.23	802
210.000	18.508	0.05263	4.8971	44.474	9582.2	10662.8	112.550	29.00	62.09	770
215.000	17.952	0.05370	4.5361	40.429	9861.4	10975.4	114.022	29.02	62.97	739
220.000	17.387	0.05472	4.1978	36.834	10142.2	11292.5	115.480	28.82	63.63	712
225.000	16.813	0.05579	3.8822	33.678	10423.0	11612.5	116.918	28.76	64.38	685
230.000	16.235	0.05680	3.5891	30.943	10704.3	11936.2	118.341	28.75	65.04	661
235.000	15.655	0.05783	3.3179	28.611	10985.6	12263.2	119.747	28.76	65.67	639
240.000	15.077	0.05883	3.0682	26.661	11266.1	12592.7	121.135	28.62	66.19	617
245.000	14.490	0.05984	2.8392	25.072	11545.0	12923.8	122.500	28.68	66.32	599
250.000	13.946	0.06071	2.6303	23.822	11821.3	13259.5	123.840	28.95	66.29	583
255.000	13.403	0.06151	2.4406	22.886	12094.0	13588.2	125.150	29.03	65.93	569
260.000	12.861	0.06226	2.2692	22.242	12362.1	13914.8	126.426	29.12	65.40	554
265.000	12.384	0.06295	2.1149	21.864	12624.7	14239.8	127.664	29.21	64.93	540
270.000	11.914	0.06359	1.9767	21.725	12881.4	14560.0	128.861	29.30	64.51	527
275.000	11.474	0.06415	1.8532	21.768	13131.6	14874.0	130.016	29.40	64.32	517
280.000	11.064	0.06463	1.7428	22.001	13375.4	15183.1	131.128	29.50	64.09	503
285.000	10.681	0.06502	1.6441	22.298	13613.2	15485.6	132.199	29.62	63.90	490
290.000	10.325	0.06535	1.5555	22.636	13845.3	15782.3	133.231	29.74	63.61	478
295.000	9.993	0.06567	1.4750	23.001	14072.6	16073.9	134.227	29.87	63.83	467
300.000	9.683	0.06597	1.4031	23.386	14295.3	16360.7	135.192	30.00	63.94	457
305.000	9.391	0.06627	1.2771	24.214	14729.3	16822.2	137.033	30.30	64.49	423
310.000	8.925	0.06655	1.1715	25.146	15150.7	17459.6	138.771	30.63	64.11	402
315.000	8.486	0.06682	1.0820	26.210	15561.7	18044.9	140.418	30.99	62.99	381
320.000	7.997	0.06708	1.0055	27.360	15964.7	18529.9	141.986	31.38	62.05	362
325.000	7.449	0.06735	0.9395	28.550	16361.5	19046.5	143.483	31.80	61.30	343
330.000	7.136	0.06761	0.8821	29.755	16753.9	19556.5	144.920	32.23	60.72	324
335.000	6.854	0.06789	0.8316	30.961	17143.5	20051.4	146.303	32.69	60.28	305
340.000	6.598	0.06816	0.7868	32.162	17531.3	20562.0	147.640	33.17	59.92	287
345.000	6.364	0.06844	0.7470	33.354	17918.5	21051.2	148.935	33.67	59.75	269
350.000	6.149	0.06872	0.7112	34.536	18305.9	21558.4	150.194	34.17	59.67	251
355.000	5.968	0.06900	0.6796	35.705	18694.1	22051.3	151.616	34.62	59.67	233
360.000	5.800	0.06928	0.6518	36.869	19084.1	22551.3	153.131	35.09	59.91	215
365.000	5.644	0.06956	0.6270	38.028	19475.2	23051.3	154.731	35.57	60.29	197
370.000	5.500	0.06984	0.6044	39.182	19867.5	23548.3	156.417	36.07	60.80	179
375.000	5.366	0.07012	0.5838	40.332	20261.0	24048.3	158.189	36.58	61.40	161
380.000	5.242	0.07040	0.5642	41.478	20656.5	24551.3	160.047	37.10	62.09	143
385.000	5.128	0.07068	0.5456	42.620	21054.0	25056.5	161.991	37.63	62.87	125
390.000	5.024	0.07096	0.5280	43.758	21453.5	25563.0	164.021	38.17	63.74	107
395.000	4.929	0.07124	0.5114	44.892	21855.0	26071.0	166.136	38.72	64.69	89
400.000	4.843	0.07152	0.4958	46.022	22258.5	26581.0	168.336	39.28	65.71	71
405.000	4.766	0.07180	0.4812	47.148	22664.0	27093.0	170.621	39.85	66.80	53
410.000	4.698	0.07208	0.4676	48.270	23071.5	27607.0	172.991	40.43	67.95	35
415.000	4.639	0.07236	0.4549	49.388	23481.0	28123.0	175.446	41.02	69.16	17
420.000	4.589	0.07264	0.4432	50.502	23892.5	28641.0	177.986	41.62	70.42	-1
425.000	4.548	0.07292	0.4324	51.612	24306.0	29161.0	180.611	42.23	71.73	-19
430.000	4.515	0.07320	0.4226	52.718	24721.5	29683.0	183.321	42.85	73.09	-37
435.000	4.489	0.07348	0.4138	53.820	25139.0	30207.0	186.116	43.48	74.50	-55
440.000	4.471	0.07376	0.4059	54.918	25558.5	30733.0	188.996	44.12	75.96	-73
445.000	4.460	0.07404	0.4000	56.012	25979.0	31261.0	191.961	44.77	77.47	-91
450.000	4.456	0.07432	0.3950	57.102	26401.5	31791.0	195.011	45.43	79.02	-109
455.000	4.459	0.07460	0.3909	58.188	26826.0	32323.0	198.146	46.10	80.61	-127
460.000	4.469	0.07488	0.3877	59.270	27252.5	32857.0	201.366	46.78	82.24	-145
465.000	4.485	0.07516	0.3854	60.348	27680.0	33393.0	204.671	47.47	83.91	-163
470.000	4.507	0.07544	0.3839	61.422	28109.5	33931.0	208.061	48.17	85.62	-181
475.000	4.535	0.07572	0.3832	62.492	28541.0	34471.0	211.536	48.88	87.37	-200
480.000	4.569	0.07600	0.3833	63.558	28974.5	35013.0	215.096	49.60	89.16	-218
485.000	4.609	0.07628	0.3842	64.620	29409.0	35557.0	218.741	50.33	90.99	-236
490.000	4.655	0.07656	0.3858	65.678	29845.5	36103.0	222.471	51.07	92.86	-254
495.000	4.707	0.07684	0.3880	66.732	30283.0	36651.0	226.286	51.82	94.77	-272
500.000	4.766	0.07712	0.3908	67.782	30722.5	37201.0	230.186	52.58	96.72	-290

METHANE ISOBAR AT P = 220.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
96.183	28.565	0.03501	20.0669	276.353	3552.3	4322.5	68.815	34.69	51.87	1609
100.000	28.278	0.03536	19.2712	264.894	3733.6	4517.5	70.863	34.75	52.28	1570
105.000	27.914	0.03582	18.2782	250.265	3987.2	4775.3	73.427	34.82	52.81	1533
110.000	27.548	0.03630	17.3320	235.689	4238.8	5037.4	75.894	34.75	53.23	1500
115.000	27.178	0.03679	16.4309	221.363	4493.0	5302.4	78.266	34.51	53.50	1462
120.000	26.805	0.03731	15.5723	207.429	4748.6	5569.3	80.547	34.15	53.68	1420
125.000	26.427	0.03784	14.7536	193.985	5005.1	5837.6	82.742	33.76	53.84	1389
130.000	26.044	0.03840	13.9719	181.100	5262.3	6107.0	84.857	33.40	54.05	1352
135.000	25.650	0.03898	13.2248	168.812	5520.4	6377.9	86.903	33.13	54.33	1314
140.000	25.261	0.03959	12.5101	157.142	5779.9	6650.8	88.888	32.86	54.81	1279
145.000	24.866	0.04023	11.8257	146.093	6041.1	6928.1	90.820	32.85	55.31	1239
150.000	24.451	0.04090	11.1760	135.050	6304.1	7203.9	92.703	32.71	55.73	1201
155.000	24.036	0.04160	10.5415	125.813	6568.5	7483.8	94.539	32.45	56.14	1165
160.000	23.613	0.04235	9.9390	116.541	6833.3	7765.0	96.324	31.97	56.29	1131
165.000	23.183	0.04313	9.3615	107.813	7097.4	8046.4	98.058	31.27	56.23	1099
170.000	22.745	0.04397	8.8081	99.004	7359.9	8327.1	99.732	30.48	56.07	1069
175.000	22.299	0.04485	8.2780	91.892	7621.1	8607.7	101.356	30.31	56.55	1034
180.000	21.844	0.04578	7.7708	84.055	7884.0	8891.2	102.953	29.95	56.80	1001
185.000	21.381	0.04677	7.2859	77.879	8147.5	9178.5	104.516	29.68	57.27	968
190.000	20.908	0.04783	6.8230	71.553	8411.8	9464.0	106.050	29.47	57.79	935
195.000	20.427	0.04895	6.3818	65.676	8677.1	9754.1	107.557	29.31	58.30	902
200.000	19.937	0.05010	5.9624	60.226	8943.5	10047.0	109.040	29.19	58.83	870
205.000	19.437	0.05145	5.5644	55.217	9211.2	10343.1	110.502	29.10	59.53	839
210.000	18.929	0.05293	5.1880	50.641	9480.2	10642.4	111.945	29.05	60.20	809
215.000	18.413	0.05431	4.8331	46.933	9750.3	10945.1	113.369	29.31	60.87	780
220.000	17.896	0.05590	4.4994	42.764	10021.4	11251.1	114.775	28.79	61.34	754
225.000	17.361	0.05760	4.1870	39.443	10292.0	11559.2	116.161	28.73	61.90	723
230.000	16.829	0.05942	3.8933	36.515	10562.9	11870.1	117.528	28.70	62.45	704
235.000	16.295	0.06137	3.6240	33.965	10833.6	12183.6	118.876	28.72	62.94	681
240.000	15.763	0.06344	3.3725	31.772	11103.7	12499.4	120.206	28.76	63.34	660
245.000	15.235	0.06564	3.1401	29.917	11372.8	12818.8	121.515	28.82	63.61	642
250.000	14.715	0.06796	2.9260	28.380	11640.1	13135.2	122.801	28.90	63.73	629
255.000	14.205	0.07040	2.7294	27.139	11905.1	13453.8	124.063	28.99	63.60	610
260.000	13.710	0.07294	2.5496	26.173	12167.0	13771.7	125.298	29.08	63.44	597
265.000	13.232	0.07557	2.3857	25.462	12425.2	14087.9	126.502	29.18	63.62	585
270.000	12.774	0.07829	2.2366	24.963	12679.3	14401.5	127.675	29.29	62.43	575
275.000	12.337	0.08106	2.1014	24.715	12928.7	14711.9	128.814	29.41	61.63	563
280.000	11.924	0.08387	1.9791	24.630	13173.2	15018.2	129.918	29.53	60.84	552
285.000	11.534	0.08670	1.8685	24.719	13412.7	15320.1	130.986	29.65	60.91	543
290.000	11.168	0.08954	1.7685	24.927	13647.3	15617.3	132.020	29.78	60.90	535
295.000	10.824	0.09233	1.6780	25.214	13877.3	15919.8	133.020	29.92	60.64	529
300.000	10.502	0.09522	1.5958	25.543	14102.9	16137.8	133.988	30.07	60.19	521
310.000	9.914	0.10087	1.4526	26.269	14543.0	16762.2	135.839	30.39	60.72	504
320.000	9.392	0.10647	1.3321	27.061	14970.8	17313.2	137.588	30.73	60.52	507
330.000	8.926	0.11203	1.2296	27.917	15388.7	17853.3	139.250	31.10	60.54	507
340.000	8.509	0.11752	1.1415	28.849	15798.8	18384.4	140.836	31.50	62.70	504
350.000	8.134	0.12295	1.0652	29.918	16202.9	18907.7	142.353	31.93	61.99	501
360.000	7.795	0.12829	0.9987	31.027	16602.3	19424.6	143.819	32.37	61.41	504
370.000	7.488	0.13354	0.9402	32.167	16998.5	19936.4	145.212	32.83	60.97	508
380.000	7.209	0.13871	0.8885	33.319	17392.7	20444.3	146.566	33.31	60.64	502
390.000	6.954	0.14380	0.8423	34.473	17785.8	20949.5	147.878	33.81	60.41	500
400.000	6.720	0.14882	0.8010	35.624	18178.8	21452.8	149.153	34.32	60.27	500
420.000	6.303	0.15864	0.7300	37.905	18967.2	22457.3	151.603	35.36	60.22	509
440.000	5.945	0.16822	0.6711	40.151	19762.5	23453.3	153.943	36.44	60.40	508
460.000	5.632	0.17757	0.6216	42.356	20568.0	24474.6	156.191	37.52	60.79	509
480.000	5.355	0.18673	0.5792	44.520	21386.0	25494.2	159.360	38.51	61.23	607
500.000	5.109	0.19573	0.5427	46.644	22218.3	26524.2	163.463	39.70	61.79	610

METHANE ISOBAR AT P = 240.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MDL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
90.000	28.601	0.03496	20.0133	278.419	3560.8	4400.0	63.902	34.83	51.83	1607
100.000	28.353	0.03527	19.3308	268.695	3723.7	4570.1	70.683	34.88	52.18	1583
105.000	27.993	0.03572	18.3516	254.438	3970.0	4627.4	73.241	34.95	52.63	1540
110.000	27.632	0.03619	17.4180	240.169	4220.2	5038.8	75.702	34.88	53.08	1509
115.000	27.268	0.03667	16.5286	226.095	4472.9	5353.0	78.668	34.84	53.33	1473
120.000	26.906	0.03717	15.6810	212.371	4726.9	5619.0	80.341	34.28	53.48	1437
125.000	26.529	0.03764	14.8727	199.102	4981.5	5886.2	82.527	33.88	53.62	1401
130.000	26.153	0.03824	14.1012	186.361	5235.8	6154.4	84.633	33.52	53.80	1365
135.000	25.772	0.03880	13.3640	174.196	5492.8	6424.0	86.668	33.25	54.03	1329
140.000	25.386	0.03933	12.6590	162.629	5750.6	6695.4	88.643	33.08	54.43	1292
145.000	24.994	0.03991	11.9842	151.069	6008.8	6969.0	90.563	32.97	54.95	1255
150.000	24.596	0.04056	11.3379	141.311	6269.1	7244.9	92.433	32.83	55.33	1219
155.000	24.191	0.04134	10.7188	131.540	6530.6	7522.7	94.255	32.56	55.69	1184
160.000	23.781	0.04205	10.1256	122.335	6792.3	7801.5	96.025	32.08	55.79	1152
165.000	23.364	0.04280	9.5573	113.670	7053.1	8080.3	97.740	31.38	55.67	1121
170.000	22.940	0.04359	9.0129	105.521	7311.9	8358.1	99.399	30.58	55.45	1092
175.000	22.510	0.04443	8.4919	97.882	7569.1	8635.3	101.004	30.46	55.85	1059
180.000	22.072	0.04531	7.9935	90.674	7827.8	8915.1	102.580	30.04	56.08	1027
185.000	21.628	0.04624	7.5172	83.937	8086.6	9196.2	104.121	29.76	56.39	995
190.000	21.177	0.04722	7.0626	77.638	8345.8	9479.1	105.629	29.55	56.77	964
195.000	20.718	0.04827	6.6295	71.766	8605.6	9764.0	107.109	29.38	57.23	933
200.000	20.253	0.04936	6.2174	66.314	8866.1	10051.2	108.563	29.24	57.67	903
205.000	19.781	0.05055	5.8263	61.274	9127.4	10340.7	109.993	29.15	58.17	873
210.000	19.302	0.05181	5.4558	56.643	9389.5	10632.9	111.401	29.07	58.69	844
215.000	18.818	0.05314	5.1058	52.413	9652.3	10927.7	112.789	29.03	59.23	815
220.000	18.328	0.05456	4.7761	48.576	9915.7	11225.2	114.157	28.80	59.55	791
225.000	17.835	0.05607	4.4663	45.123	10178.4	11524.0	115.500	28.72	59.99	767
230.000	17.339	0.05767	4.1761	42.040	10440.9	11825.1	116.823	28.69	60.42	743
235.000	16.842	0.05937	3.9049	39.313	10703.2	12128.2	118.127	28.69	60.83	721
240.000	16.346	0.06118	3.6523	36.924	10965.0	12433.2	119.411	28.73	61.13	700
245.000	15.854	0.06313	3.4174	34.855	11226.0	12739.8	120.676	28.79	61.45	681
250.000	15.367	0.06518	3.1997	33.089	11485.8	13047.6	121.919	28.87	61.62	664
255.000	14.888	0.06717	2.9984	31.605	11743.8	13355.9	123.140	28.96	61.89	643
260.000	14.419	0.06935	2.8127	30.386	11999.7	13664.2	124.337	29.06	61.62	634
265.000	13.963	0.07162	2.6418	29.411	12253.0	13971.9	125.509	29.17	61.42	621
270.000	13.521	0.07396	2.4848	28.661	12503.2	14278.2	126.655	29.29	61.11	611
275.000	13.096	0.07636	2.3410	28.117	12750.1	14582.7	127.772	29.41	60.86	601
280.000	12.689	0.07881	2.2094	27.762	12993.3	14884.7	128.860	29.54	60.12	593
285.000	12.301	0.08130	2.0892	27.578	13232.6	15183.7	129.919	29.68	59.43	587
290.000	11.932	0.08381	1.9795	27.547	13468.6	15479.5	130.948	29.82	58.81	582
295.000	11.582	0.08634	1.8794	27.647	13699.5	15771.7	131.947	29.97	58.07	578
300.000	11.252	0.08888	1.7881	27.853	13927.1	16060.2	132.915	30.13	57.33	575
310.000	10.645	0.09334	1.6281	28.454	14371.9	16526.4	134.773	30.46	55.95	571
320.000	10.104	0.09897	1.4933	29.162	14804.6	17179.9	136.531	30.82	54.73	566
330.000	9.618	0.10337	1.3782	29.926	15227.7	17722.9	138.202	31.21	53.85	567
340.000	9.181	0.10832	1.2791	30.743	15643.2	18257.4	139.797	31.61	53.08	567
350.000	8.784	0.11384	1.1929	31.618	16052.9	18785.0	141.327	32.04	52.40	566
360.000	8.425	0.11870	1.1175	32.575	16458.1	19306.9	142.797	32.49	51.94	570
370.000	8.097	0.12350	1.0511	33.604	16860.0	19824.1	144.214	32.96	51.52	572
380.000	7.798	0.12824	0.9922	34.678	17259.7	20337.5	145.583	33.45	51.13	575
390.000	7.524	0.13291	0.9398	35.775	17658.2	20848.2	146.910	33.94	50.55	579
400.000	7.272	0.13752	0.8928	36.882	18056.3	21356.9	148.198	34.45	50.81	582
420.000	6.823	0.14656	0.8121	39.099	18854.2	22371.6	150.673	35.50	50.72	590
440.000	6.436	0.15538	0.7453	41.298	19658.0	23387.0	153.035	36.57	50.86	598
460.000	6.098	0.16400	0.6892	43.468	20471.3	24407.2	155.302	37.66	51.13	607
480.000	5.799	0.17244	0.6413	45.606	21296.4	25434.9	157.489	38.75	51.62	615
500.000	5.533	0.18073	0.6000	47.709	22135.0	26472.5	159.607	39.83	52.15	624

METHANE ISOBAR AT P = 200.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
97.156	28.637	0.03492	19.9607	280.432	3569.6	4477.5	68.990	34.97	51.80	1609
100.000	28.427	0.03518	19.3874	272.371	3708.2	4622.8	70.505	35.01	52.03	1583
105.000	28.071	0.03552	18.4219	258.494	3953.3	4879.5	73.059	35.08	52.58	1554
110.000	27.714	0.03608	17.5007	244.537	4202.2	5140.4	75.514	35.01	52.95	1513
115.000	27.355	0.03650	16.6226	230.722	4453.4	5403.9	77.873	34.77	53.18	1483
120.000	26.994	0.03705	15.7856	217.210	4705.9	5669.0	80.139	34.41	53.30	1448
125.000	26.628	0.03755	14.9875	204.117	4958.8	5935.2	82.317	34.01	53.41	1414
130.000	26.259	0.03808	14.2257	191.522	5212.2	6202.4	84.415	33.65	53.57	1379
135.000	25.885	0.03863	13.4979	179.477	5466.3	6470.7	86.441	33.38	53.63	1343
140.000	25.507	0.03920	12.8021	168.011	5721.4	6740.7	88.405	33.20	54.19	1307
145.000	25.123	0.03980	12.1363	157.137	5977.8	7012.7	90.314	33.09	54.62	1272
150.000	24.735	0.04043	11.4988	146.854	6235.7	7286.9	92.172	32.94	55.02	1236
155.000	24.340	0.04108	10.8883	137.148	6494.6	7562.8	93.981	32.87	55.29	1203
160.000	23.941	0.04177	10.3036	128.002	6753.5	7839.5	95.738	32.19	55.35	1171
165.000	23.535	0.04249	9.7436	119.392	7011.2	8115.9	97.439	31.49	55.17	1142
170.000	23.125	0.04324	9.2075	111.293	7266.7	8391.0	99.082	30.88	54.93	1114
175.000	22.708	0.04404	8.6944	103.680	7520.4	8665.4	100.670	30.50	55.24	1082
180.000	22.286	0.04487	8.2038	96.532	7775.3	8941.9	102.228	30.13	55.40	1052
185.000	21.858	0.04575	7.7350	89.828	8030.0	9219.5	103.749	29.85	55.64	1022
190.000	21.425	0.04667	7.2877	83.551	8284.9	9498.4	105.237	29.62	55.93	992
195.000	20.986	0.04765	6.8613	77.689	8540.0	9778.9	106.694	29.44	56.27	962
200.000	20.542	0.04868	6.4556	72.231	8795.5	10051.2	108.123	29.30	56.65	933
205.000	20.092	0.04977	6.0701	67.168	9051.5	10325.5	109.527	29.19	57.05	905
210.000	19.638	0.05092	5.7046	62.492	9307.8	10601.8	110.907	29.11	57.47	877
215.000	19.180	0.05214	5.3588	58.197	9564.6	10880.2	112.264	29.06	57.90	850
220.000	18.716	0.05343	5.0324	54.274	9821.7	11160.8	113.600	28.82	58.12	826
225.000	18.253	0.05479	4.7249	50.712	10077.8	11442.2	114.910	28.73	58.46	802
230.000	17.786	0.05622	4.4360	47.502	10333.6	11725.4	116.199	28.69	58.81	777
235.000	17.319	0.05774	4.1651	44.628	10589.0	12010.2	117.467	28.69	59.14	757
240.000	16.854	0.05933	3.9117	42.076	10844.0	12296.7	118.716	28.72	59.45	737
245.000	16.390	0.06101	3.6752	39.931	11098.3	12684.7	119.944	28.78	59.70	713
250.000	15.931	0.06277	3.4546	37.875	11351.7	12973.7	121.152	28.85	59.88	700
255.000	15.479	0.06460	3.2499	36.191	11603.7	13283.5	122.340	28.94	60.00	684
260.000	15.034	0.06652	3.0597	34.761	11854.2	13583.6	123.505	29.05	60.03	664
265.000	14.599	0.06850	2.8835	33.569	12102.7	13883.6	124.648	29.16	59.90	650
270.000	14.176	0.07054	2.7206	32.596	12348.9	14183.0	125.768	29.29	59.80	644
275.000	13.765	0.07265	2.5701	31.826	12592.6	14481.4	126.863	29.42	59.55	634
280.000	13.368	0.07430	2.4314	31.241	12833.5	14778.3	127.933	29.56	59.21	629
285.000	12.987	0.07700	2.3036	30.827	13071.4	15073.4	128.977	29.71	58.79	617
290.000	12.621	0.07923	2.1860	30.567	13306.2	15366.2	129.996	29.86	58.32	610
295.000	12.272	0.08149	2.0779	30.448	13537.8	15656.5	130.988	30.02	57.79	604
300.000	11.939	0.08376	1.9765	30.455	13766.3	15944.1	131.955	30.18	57.24	600
310.000	11.321	0.08833	1.8031	30.778	14214.1	16510.6	133.813	30.53	56.68	594
320.000	10.705	0.09249	1.6542	31.364	14650.7	17065.9	135.575	30.90	56.00	590
330.000	10.264	0.09743	1.5269	32.057	15078.0	17611.1	137.253	31.30	55.08	586
340.000	9.811	0.10133	1.4171	32.805	15497.5	18148.0	138.856	31.71	53.34	586
350.000	9.398	0.10640	1.3215	33.593	15911.9	18678.4	140.394	32.15	52.75	583
360.000	9.022	0.11034	1.2375	34.421	16321.7	19203.5	141.873	32.61	52.23	587
370.000	8.678	0.11523	1.1634	35.307	16728.3	19724.4	143.300	33.08	51.92	588
380.000	8.362	0.11959	1.0976	36.261	17132.8	20242.0	144.681	33.57	51.62	590
390.000	8.072	0.12349	1.0388	37.267	17536.0	20757.1	146.019	34.07	51.40	592
400.000	7.804	0.12814	0.9861	38.308	17938.6	21270.3	147.318	34.58	51.25	595
420.000	7.326	0.13650	0.8955	40.435	18745.1	22234.0	149.815	35.63	51.15	602
440.000	6.913	0.14465	0.8207	42.574	19556.9	23317.9	152.197	36.71	51.27	609
460.000	6.552	0.15264	0.7578	44.700	20377.4	24346.0	154.482	37.79	51.55	617
480.000	6.232	0.16046	0.7043	46.803	21209.2	25381.1	156.684	38.88	51.97	629
500.000	5.947	0.16814	0.6582	48.878	22053.9	26425.6	158.816	39.96	52.48	633

METHANE ISOBAR AT P = 280.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
97.039	28.072	0.035438	19.9090	282.394	3578.5	4555.1	69.077	35.11	51.73	1611
100.000	28.500	0.03509	19.4413	275.919	3693.1	4675.6	70.330	35.14	52.01	1595
105.000	28.148	0.03553	18.4893	262.432	3937.1	4931.9	72.879	35.21	52.43	1561
110.000	27.795	0.03598	17.5802	248.795	4184.7	5192.1	75.329	35.14	52.83	1527
115.000	27.441	0.03644	16.7132	235.244	4434.6	5455.0	77.882	34.90	53.03	1493
120.000	27.085	0.03692	15.8866	221.949	4685.5	5719.3	79.942	34.53	53.14	1459
125.000	26.725	0.03742	15.0982	209.034	4930.9	5984.6	82.112	34.13	53.22	1425
130.000	26.362	0.03793	14.3457	196.585	5188.6	6250.7	84.202	33.77	53.35	1391
135.000	25.995	0.03847	13.6270	184.661	5440.8	6517.9	86.219	33.49	53.53	1357
140.000	25.624	0.03903	12.9398	173.295	5693.9	6786.6	88.174	33.32	53.92	1322
145.000	25.249	0.03951	12.2825	162.504	5948.2	7057.2	90.073	33.20	54.32	1287
150.000	24.868	0.04021	11.6533	152.290	6203.9	7329.8	91.921	33.06	54.63	1253
155.000	24.483	0.04094	11.0508	142.645	6460.3	7603.9	93.718	32.78	54.92	1220
160.000	24.094	0.04150	10.4739	133.553	6716.6	7878.7	95.463	32.36	54.94	1190
165.000	23.699	0.04220	9.9216	124.990	6971.5	8152.9	97.151	31.59	54.73	1162
170.000	23.300	0.04292	9.3929	116.935	7224.0	8425.7	98.780	30.78	54.40	1135
175.000	22.896	0.04368	8.8870	109.362	7474.6	8697.5	100.353	30.59	54.70	1104
180.000	22.487	0.04447	8.4033	102.247	7726.1	8971.2	101.895	30.22	54.86	1075
185.000	22.074	0.04530	7.9412	95.570	7977.2	9245.7	103.399	29.93	54.98	1045
190.000	21.656	0.04618	7.5001	89.313	8229.3	9521.2	104.868	29.70	55.22	1017
195.000	21.234	0.04709	7.0796	83.459	8479.3	9797.9	106.306	29.52	55.43	989
200.000	20.806	0.04806	6.6793	77.996	8730.5	10076.1	107.714	29.37	55.73	961
205.000	20.378	0.04907	6.2987	72.914	8981.6	10355.9	109.096	29.25	56.11	934
210.000	19.944	0.05014	5.9376	68.203	9233.4	10637.3	110.452	29.16	56.45	907
215.000	19.508	0.05125	5.5953	63.854	9485.1	10920.4	111.784	29.10	56.83	881
220.000	19.066	0.05244	5.2717	59.859	9735.9	11205.3	113.094	28.85	56.94	853
225.000	18.627	0.05365	4.9663	56.208	9987.4	11490.6	114.377	28.75	57.21	825
230.000	18.185	0.05499	4.6786	52.891	10237.6	11777.4	115.637	28.71	57.43	813
235.000	17.743	0.05636	4.4081	49.895	10487.4	12065.5	116.877	28.70	57.77	791
240.000	17.302	0.05781	4.1542	47.206	10736.7	12355.0	118.096	28.73	58.03	771
245.000	16.863	0.05940	3.9163	44.811	10985.4	12645.8	119.295	28.78	58.27	752
250.000	16.429	0.06087	3.6939	42.594	11233.3	12937.7	120.474	28.65	58.46	734
255.000	15.999	0.06231	3.4861	40.840	11480.2	13230.3	121.633	28.95	58.59	718
260.000	15.575	0.06380	3.2924	39.233	11725.8	13523.5	122.772	29.05	58.67	703
265.000	15.160	0.06536	3.1121	37.656	11969.9	13816.8	123.889	29.17	58.67	689
270.000	14.754	0.06703	2.9444	36.094	12212.2	14110.1	124.985	29.30	58.61	674
275.000	14.358	0.06865	2.7886	34.731	12452.6	14402.8	126.060	29.44	58.47	660
280.000	13.974	0.07156	2.6441	34.952	12690.9	14694.6	127.111	29.58	58.27	650
285.000	13.602	0.07352	2.5102	34.342	12926.6	14985.3	128.140	29.74	58.03	645
290.000	13.243	0.07551	2.3863	33.887	13160.2	15274.6	129.146	29.89	57.63	635
295.000	12.896	0.07753	2.2715	33.574	13391.1	15562.1	130.129	30.06	57.31	632
300.000	12.566	0.07953	2.1654	33.369	13619.5	15847.7	131.089	30.23	56.91	625
310.000	11.946	0.08371	1.9764	33.359	14068.5	16412.4	132.941	30.59	56.63	617
320.000	11.381	0.08787	1.8145	33.696	14507.8	16966.1	134.706	30.98	55.11	611
330.000	10.868	0.09202	1.6754	34.272	14938.4	17514.9	136.388	31.38	54.27	605
340.000	10.401	0.09614	1.5550	34.953	15361.9	18053.3	137.997	31.81	53.55	600
350.000	9.976	0.10024	1.4501	35.684	15779.6	18583.6	139.541	32.25	52.93	604
360.000	9.587	0.10431	1.3579	36.451	16193.2	19113.8	141.027	32.72	52.53	604
370.000	9.230	0.10835	1.2763	37.251	16603.6	19637.3	142.461	33.19	52.13	604
380.000	8.901	0.11235	1.2038	38.088	17012.0	20157.3	143.849	33.69	51.94	605
390.000	8.597	0.11633	1.1388	38.977	17419.2	20676.3	145.196	34.19	51.75	605
400.000	8.315	0.12025	1.0805	39.921	17825.9	21193.1	146.504	34.71	51.62	604
420.000	7.812	0.12801	0.9801	41.916	18640.1	22224.3	149.020	35.76	51.53	614
440.000	7.375	0.13553	0.8971	43.974	19455.2	23255.7	151.419	36.83	51.64	624
460.000	6.992	0.14301	0.8275	46.044	20266.5	24290.9	153.720	37.92	51.91	627
480.000	6.654	0.15029	0.7682	48.104	21124.6	25332.3	155.937	39.00	52.33	634
500.000	6.351	0.15744	0.7171	50.144	21975.1	26333.6	158.082	40.08	52.73	642

METHANE ISDBAR AT P = 300.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	GP	W
DEG K	MDL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MDL	J/MDL/K	J/MOL/K	J/MDL/K	1/SEC
98.120	28.707	0.03483	19.8582	284.303	3587.6	4632.7	69.165	35.24	31.75	1613
100.000	28.572	0.03500	19.4924	279.337	3678.5	4726.5	70.158	35.27	31.93	1601
105.000	28.224	0.03543	18.5538	266.252	3921.4	4984.3	72.703	35.34	32.33	1595
110.000	27.875	0.03587	17.6566	252.944	4167.8	5244.0	75.148	35.26	32.71	1585
115.000	27.525	0.03633	16.8005	239.063	4416.3	5506.2	77.496	35.02	32.90	1502
120.000	27.174	0.03680	15.9840	226.589	4665.9	5769.9	79.749	34.55	32.98	1493
125.000	26.820	0.03729	15.2051	213.855	4915.8	6034.3	81.913	34.25	33.04	1437
130.000	26.463	0.03779	14.4616	201.555	5165.8	6299.5	83.995	33.88	33.15	1404
135.000	26.102	0.03831	13.7514	189.751	5416.3	6565.6	86.004	33.61	33.36	1373
140.000	25.738	0.03885	13.0726	178.484	5667.5	6833.1	87.950	33.43	33.67	1330
145.000	25.370	0.03942	12.4232	167.774	5919.9	7102.4	89.839	33.31	34.04	1302
150.000	24.997	0.04000	11.8018	157.628	6173.3	7373.5	91.677	33.17	34.38	1263
155.000	24.621	0.04062	11.2069	148.040	6427.5	7646.0	93.464	32.89	34.59	1237
160.000	24.240	0.04125	10.6373	138.996	6681.4	7919.0	95.198	32.40	34.57	1206
165.000	23.856	0.04192	10.0920	130.477	6933.8	8191.3	96.874	31.69	34.32	1181
170.000	23.467	0.04261	9.5700	122.459	7183.6	8452.0	98.490	30.88	33.90	1150
175.000	23.074	0.04334	9.0767	114.919	7431.3	8731.5	100.050	30.59	34.22	1125
180.000	22.678	0.04410	8.5932	107.832	7679.6	9002.7	101.578	30.31	34.28	1097
185.000	22.277	0.04489	8.1371	101.178	7927.7	9274.4	103.066	30.02	34.41	1069
190.000	21.873	0.04572	7.7016	94.936	8175.4	9546.9	104.520	29.78	34.53	1042
195.000	21.466	0.04658	7.2863	89.089	8422.8	9820.4	105.940	29.59	34.81	1014
200.000	21.056	0.04749	6.8907	83.623	8670.2	10095.0	107.331	29.43	35.05	987
205.000	20.642	0.04844	6.5144	78.525	8917.6	10370.9	108.693	29.31	35.31	961
210.000	20.226	0.04944	6.1576	73.785	9164.9	10648.1	110.030	29.22	35.59	935
215.000	19.808	0.05048	5.8179	69.392	9412.2	10926.8	111.341	29.15	35.87	911
220.000	19.388	0.05156	5.4967	65.338	9659.5	11206.9	112.629	28.89	35.90	888
225.000	18.967	0.05272	5.1931	61.612	9905.4	11487.1	113.889	28.79	36.15	866
230.000	18.545	0.05332	4.9064	58.205	10150.9	11768.5	115.125	28.73	36.39	844
235.000	18.124	0.05517	4.5363	55.104	10395.8	12051.1	116.341	28.72	36.63	823
240.000	17.704	0.05648	4.3821	52.299	10640.3	12334.8	117.535	28.75	36.86	803
245.000	17.287	0.05785	4.1432	49.776	10884.2	12619.6	118.710	28.79	37.07	784
250.000	16.872	0.05927	3.9191	47.521	11127.4	12905.5	119.865	28.87	37.25	765
255.000	16.462	0.06074	3.7091	45.520	11369.8	13192.1	121.000	28.96	37.40	746
260.000	16.058	0.06227	3.5125	43.759	11611.1	13479.3	122.116	29.07	37.49	727
265.000	15.660	0.06386	3.3268	42.223	11851.3	13767.0	123.211	29.19	37.54	708
270.000	15.270	0.06549	3.1572	40.897	12090.0	14054.7	124.287	29.32	37.54	707
275.000	14.886	0.06717	2.9971	39.767	12327.3	14342.3	125.342	29.46	37.43	690
280.000	14.510	0.06889	2.8479	38.820	12562.8	14629.4	126.377	29.61	37.37	673
285.000	14.155	0.07065	2.7089	38.040	12796.5	14915.9	127.391	29.77	37.21	656
290.000	13.805	0.07244	2.5796	37.415	13028.2	15201.4	128.384	29.93	37.03	639
295.000	13.466	0.07426	2.4593	36.932	13257.9	15485.8	129.357	30.10	36.75	623
300.000	13.139	0.07611	2.3475	36.579	13485.5	15768.8	130.308	30.28	36.45	607
310.000	12.521	0.07986	2.1468	36.221	13934.3	16330.2	132.149	30.65	35.61	541
320.000	11.953	0.08366	1.9733	36.259	14375.0	16884.8	133.910	31.05	35.10	475
330.000	11.432	0.08747	1.8231	36.011	14808.0	17432.2	135.594	31.46	34.33	423
340.000	10.956	0.09127	1.6926	37.176	15234.4	17972.0	137.207	31.90	33.72	375
350.000	10.520	0.09510	1.5785	37.844	15655.3	18507.0	138.756	32.35	33.17	328
360.000	10.120	0.09881	1.4762	38.562	16072.1	19036.4	140.248	32.82	32.73	281
370.000	9.752	0.10254	1.3894	39.313	16485.8	19552.0	141.688	33.30	32.43	234
380.000	9.412	0.10624	1.3102	40.091	16897.5	20084.8	143.082	33.80	32.15	187
390.000	9.098	0.10992	1.2393	40.890	17308.0	20605.6	144.435	34.31	32.00	140
400.000	8.805	0.11357	1.1755	41.737	17718.1	21125.1	145.750	34.82	31.90	93
420.000	8.280	0.12077	1.0655	43.554	18539.3	22152.3	149.281	35.88	31.80	20
440.000	7.823	0.12784	0.9744	45.498	19365.0	23200.1	153.694	36.96	31.50	0
460.000	7.420	0.13477	0.8978	47.495	20198.6	24241.7	158.009	38.04	32.22	0
480.000	7.064	0.14157	0.8327	49.503	21042.5	25289.7	163.239	39.12	32.00	0
500.000	6.745	0.14826	0.7767	51.503	21898.6	26346.3	167.396	40.20	33.07	0

METHANE ISOBAR AT P = 320.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	H
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
98.599	28.742	0.03479	19.8083	286.162	3596.9	4710.2	69.253	35.37	51.73	1615
100.000	28.643	0.03491	19.5409	282.625	3664.2	4731.4	69.988	35.39	51.85	1607
105.000	28.298	0.03534	18.6156	269.954	3906.0	5036.8	72.529	35.46	52.29	1575
110.000	27.954	0.03577	17.7302	256.983	4151.3	5296.1	74.970	35.38	52.60	1543
115.000	27.608	0.03622	16.8848	243.979	4398.6	5557.7	77.312	35.14	52.77	1511
120.000	27.261	0.03658	16.0781	231.131	4646.8	5820.7	79.560	34.77	52.83	1480
125.000	26.912	0.03716	15.3083	218.582	4895.3	6044.3	81.717	34.37	52.87	1448
130.000	26.561	0.03765	14.5736	206.432	5143.8	6348.6	83.792	34.00	52.96	1415
135.000	26.206	0.03816	13.8717	194.751	5392.6	6613.7	85.794	33.72	53.15	1383
140.000	25.848	0.03863	13.2007	183.583	5642.1	6880.1	87.732	33.54	53.43	1350
145.000	25.487	0.03924	12.5590	172.954	5892.6	7148.1	89.613	33.42	53.79	1317
150.000	25.122	0.03981	11.9449	162.873	6144.1	7417.9	91.441	33.27	54.03	1285
155.000	24.754	0.04045	11.3571	153.339	6396.2	7688.9	93.218	33.00	54.27	1254
160.000	24.382	0.04101	10.7943	144.340	6647.8	7960.3	94.942	32.51	54.23	1225
165.000	24.006	0.04166	10.2555	135.859	6897.9	8230.9	96.607	31.79	53.95	1193
170.000	23.627	0.04232	9.7398	127.874	7145.2	8499.6	98.212	30.97	53.55	1174
175.000	23.244	0.04302	9.2465	120.363	7390.3	8767.0	99.759	30.78	53.73	1145
180.000	22.859	0.04375	8.7747	113.300	7636.1	9036.0	101.274	30.40	53.81	1113
185.000	22.470	0.04450	8.3239	106.665	7881.1	9305.2	102.750	30.10	53.90	1091
190.000	22.078	0.04529	7.8934	100.436	8125.7	9575.1	104.189	29.86	54.04	1069
195.000	21.684	0.04612	7.4827	94.594	8369.9	9845.7	105.595	29.66	54.21	1033
200.000	21.287	0.04698	7.0914	89.125	8614.0	10117.2	106.970	29.50	54.43	1012
205.000	20.888	0.04787	6.7188	84.014	8857.8	10389.8	108.316	29.37	54.62	987
210.000	20.486	0.04881	6.3646	79.249	9101.5	10663.4	109.635	29.27	54.85	962
215.000	20.085	0.04979	6.0283	74.819	9345.0	10938.2	110.928	29.20	55.03	938
220.000	19.682	0.05081	5.7093	70.714	9588.4	11214.2	112.197	28.93	55.11	916
225.000	19.278	0.05187	5.4073	66.925	9830.3	11490.2	113.437	28.83	55.27	894
230.000	18.874	0.05298	5.1216	63.441	10071.6	11767.0	114.654	28.77	55.45	873
235.000	18.471	0.05414	4.8518	60.252	10312.4	12044.9	115.849	28.75	55.65	853
240.000	18.069	0.05534	4.5974	57.347	10552.7	12323.7	117.023	28.77	55.85	833
245.000	17.670	0.05659	4.3577	54.712	10792.5	12603.5	118.177	28.82	56.05	814
250.000	17.273	0.05789	4.1322	52.338	11031.6	12884.2	119.311	28.89	56.23	797
255.000	16.881	0.05924	3.9203	50.209	11270.0	13165.5	120.426	28.98	56.37	780
260.000	16.493	0.06063	3.7214	48.313	11507.6	13447.9	121.522	29.09	56.49	765
265.000	16.111	0.06207	3.5348	46.637	11744.2	13730.5	122.599	29.21	56.56	750
270.000	15.735	0.06355	3.3599	45.168	11979.8	14013.4	123.656	29.34	56.60	737
275.000	15.367	0.06507	3.1962	43.891	12214.0	14296.4	124.695	29.49	56.59	725
280.000	15.007	0.06664	3.0431	42.794	12446.9	14579.3	125.714	29.64	56.54	713
285.000	14.656	0.06823	2.8998	41.864	12678.4	14861.8	126.714	29.80	56.45	703
290.000	14.315	0.06986	2.7660	41.089	12908.2	15143.7	127.695	29.97	56.32	694
295.000	13.983	0.07152	2.6409	40.457	13136.4	15424.9	128.656	30.15	56.16	685
300.000	13.662	0.07320	2.5242	39.955	13362.9	15705.2	129.599	30.33	55.96	677
305.000	13.352	0.07500	2.4135	39.504	13587.3	15984.5	130.526	30.71	55.49	669
310.000	12.485	0.08010	2.1298	39.059	14251.7	16814.8	133.179	31.11	54.96	659
315.000	11.961	0.08361	1.9096	39.152	14686.1	17351.6	134.862	31.54	54.33	649
320.000	11.476	0.08712	1.8295	39.517	15114.7	17902.7	136.477	31.98	53.84	644
325.000	11.034	0.09063	1.7066	40.073	15538.3	18438.5	138.030	32.44	53.33	641
330.000	10.625	0.09412	1.5983	40.731	15957.8	18969.6	139.527	32.91	52.91	633
335.000	10.248	0.09758	1.5023	41.436	16374.4	19497.0	140.972	33.40	52.59	636
340.000	9.899	0.10102	1.4167	42.172	16789.0	20021.7	142.371	33.90	52.35	637
345.000	9.575	0.10444	1.3399	42.933	17202.4	20544.5	143.729	34.41	52.20	637
350.000	9.274	0.10783	1.2768	43.716	17615.5	21066.0	145.050	34.94	52.12	636
355.000	8.999	0.11125	1.2244	44.521	18028.1	21586.1	146.343	35.48	52.10	634
360.000	8.730	0.11454	1.1814	45.346	18442.6	22107.9	147.591	36.00	52.10	640
365.000	8.474	0.11774	1.1452	46.191	18858.3	22621.0	148.801	36.54	52.24	644
370.000	8.224	0.12084	1.1144	47.055	19274.3	23135.1	150.017	37.07	52.50	649
375.000	7.984	0.12384	1.0888	47.937	19690.3	23649.2	151.182	37.60	52.87	654
380.000	7.754	0.12674	1.0688	48.837	20106.3	24163.3	152.305	38.16	53.33	661

METHANE ISOBAR AT P = 340.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W M/SEC
99.076	28.777	0.03475	19.7593	287.969	3606.3	4737.8	63.341	35.50	51.72	1617
100.000	28.714	0.03483	19.5868	285.782	3650.3	4834.4	63.821	35.52	51.80	1612
105.000	28.372	0.03525	18.6747	273.537	3891.1	5039.5	72.358	35.58	52.21	1582
110.000	28.031	0.03568	17.8010	260.914	4135.3	5348.2	74.795	35.50	52.50	1551
115.000	27.689	0.03611	16.9660	248.191	4381.4	5609.4	77.132	35.26	52.65	1520
120.000	27.347	0.03657	16.1690	235.575	4628.4	5871.7	79.374	34.89	52.69	1489
125.000	27.003	0.03703	15.4082	223.216	4875.5	6134.6	81.526	34.48	52.71	1455
130.000	26.657	0.03751	14.6818	211.219	5122.6	6398.0	83.594	34.11	52.78	1427
135.000	26.308	0.03801	13.9879	199.062	5369.8	6662.2	85.589	33.83	52.95	1396
140.000	25.956	0.03853	13.3246	188.594	5617.7	6927.6	87.519	33.65	53.22	1363
145.000	25.601	0.03906	12.6901	178.045	5866.4	7194.5	89.392	33.53	53.54	1331
150.000	25.243	0.03961	12.0830	168.030	6116.0	7462.9	91.212	33.38	53.83	1300
155.000	24.882	0.04019	11.5018	158.547	6366.2	7732.6	92.980	33.10	53.93	1270
160.000	24.518	0.04079	10.9454	149.591	6615.8	8002.5	94.694	32.60	53.92	1242
165.000	24.150	0.04141	10.4128	141.145	6863.6	8271.5	96.349	31.89	53.02	1210
170.000	23.780	0.04205	9.9029	133.150	7108.7	8538.5	97.944	31.06	53.20	1182
175.000	23.407	0.04272	9.4151	125.703	7351.4	8814.0	99.430	30.87	53.39	1154
180.000	23.031	0.04342	8.9485	118.060	7594.6	9070.9	100.984	30.48	53.38	1133
185.000	22.653	0.04414	8.5026	112.040	7837.0	9337.9	102.448	30.18	53.44	1112
190.000	22.272	0.04490	8.0766	105.822	8079.8	9605.4	103.874	29.94	53.55	1086
195.000	21.890	0.04568	7.6702	99.964	8320.2	9873.5	105.267	29.74	53.68	1061
200.000	21.505	0.04650	7.2826	94.512	8561.3	10142.3	106.628	29.57	53.84	1036
205.000	21.119	0.04735	6.9134	89.389	8802.0	10411.9	107.959	29.44	54.01	1011
210.000	20.732	0.04823	6.5621	84.603	9042.4	10682.4	109.263	29.33	54.20	987
215.000	20.344	0.04916	6.2281	80.142	9282.6	10953.9	110.541	29.25	54.40	964
220.000	19.955	0.05011	5.9111	75.994	9522.5	11226.4	111.794	28.98	54.39	943
225.000	19.566	0.05111	5.6105	72.151	9760.9	11498.6	113.017	28.87	54.51	921
230.000	19.177	0.05214	5.3257	68.601	9998.6	11771.6	114.217	28.31	54.67	901
235.000	18.790	0.05322	5.0563	65.336	10235.8	12045.3	115.395	28.79	54.84	881
240.000	18.404	0.05434	4.8017	62.343	10472.5	12320.0	116.551	28.81	55.01	861
245.000	18.020	0.05549	4.5614	59.612	10708.7	12595.5	117.687	28.85	55.19	843
250.000	17.639	0.05669	4.3348	57.133	10944.2	12871.8	118.804	28.92	55.35	825
255.000	17.261	0.05793	4.1213	54.892	11179.2	13148.9	119.901	29.01	55.49	808
260.000	16.888	0.05921	3.9203	52.878	11413.4	13426.7	120.980	29.11	55.61	793
265.000	16.520	0.06053	3.7313	51.078	11646.9	13705.0	122.040	29.24	55.70	777
270.000	16.156	0.06189	3.5537	49.480	11879.4	13983.7	123.082	29.37	55.76	762
275.000	15.802	0.06326	3.3868	48.073	12111.0	14262.6	124.105	29.52	55.79	753
280.000	15.454	0.06471	3.2302	46.843	12341.4	14541.5	125.111	29.67	55.79	741
285.000	15.113	0.06617	3.0833	45.779	12570.7	14820.4	126.098	29.84	55.75	730
290.000	14.780	0.06766	2.9456	44.869	12798.6	15099.0	127.067	30.01	55.68	720
295.000	14.450	0.06917	2.8165	44.102	13025.3	15377.2	128.018	30.19	55.58	711
300.000	14.142	0.07071	2.6955	43.467	13250.5	15654.7	128.951	30.38	55.45	703
310.000	13.541	0.07335	2.4760	42.553	13690.7	16237.7	130.764	30.77	55.12	683
320.000	12.978	0.07705	2.2833	42.052	14137.2	16757.0	132.508	31.18	54.73	673
330.000	12.455	0.08029	2.1141	41.899	14572.2	17302.2	134.185	31.61	54.30	673
340.000	11.969	0.08355	1.9652	42.039	15002.2	17843.0	135.800	32.06	53.86	684
350.000	11.519	0.08681	1.8340	42.415	15427.8	18379.5	137.355	32.52	53.44	659
360.000	11.103	0.09007	1.7160	42.963	15849.8	18912.0	138.855	33.00	53.07	655
370.000	10.718	0.09335	1.6149	43.610	16268.9	19441.0	140.305	33.50	52.76	654
380.000	10.361	0.09661	1.5229	44.304	16686.0	19967.4	141.709	34.00	52.53	655
390.000	10.030	0.09970	1.4404	45.028	17102.1	20491.9	143.071	34.52	52.38	653
400.000	9.721	0.10287	1.3660	45.773	17517.7	21015.3	144.396	35.04	52.30	653
420.000	9.162	0.10914	1.2374	47.321	18350.0	22060.9	146.947	36.11	52.30	654
440.000	8.671	0.11533	1.1304	48.965	19187.1	23108.3	149.383	37.19	52.40	656
460.000	8.236	0.12142	1.0402	50.733	20031.7	24160.2	151.721	38.28	52.74	660
480.000	7.848	0.12742	0.9634	52.585	20886.2	25216.0	153.973	39.36	53.11	665
500.000	7.501	0.13332	0.8973	54.474	21752.3	26285.3	156.150	40.44	53.57	671

METHANE ISOBAR AT P = 360.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	OP/DT BAR/K	OP/DO BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W M/SEC
99.551	28.812	0.03471	19.7111	289.725	3615.9	4865.4	69.429	35.62	51.71	1614
100.000	28.783	0.03474	19.6302	288.804	3636.7	4837.4	69.656	35.64	51.74	1617
105.000	28.445	0.03516	18.7313	276.998	3876.6	5142.2	72.190	35.70	52.14	1593
110.000	28.107	0.03558	17.8691	264.731	4119.7	5400.6	74.622	35.62	52.41	1553
115.000	27.769	0.03601	17.0445	252.301	4364.8	5661.1	76.956	35.37	52.54	1528
120.000	27.431	0.03645	16.2568	239.924	4610.5	5922.3	79.192	35.00	52.57	1499
125.000	27.092	0.03691	15.5048	227.756	4856.3	6185.1	81.338	34.59	52.57	1469
130.000	26.750	0.03738	14.7865	215.919	5102.0	6447.8	83.401	34.22	52.62	1439
135.000	26.407	0.03787	14.1003	204.488	5347.8	6711.1	85.389	33.94	52.70	1409
140.000	26.061	0.03837	13.4443	193.521	5594.1	6975.5	87.312	33.76	53.01	1379
145.000	25.712	0.03889	12.8168	183.053	5841.2	7241.3	89.177	33.53	53.32	1349
150.000	25.366	0.03943	12.2163	173.101	6089.1	7508.6	90.990	33.48	53.59	1314
155.000	25.022	0.03999	11.6415	163.670	6337.4	7777.0	92.750	33.20	53.72	1285
160.000	24.679	0.04057	11.0912	154.754	6585.0	8045.5	94.454	32.70	53.63	1253
165.000	24.338	0.04117	10.5642	146.341	6833.9	8313.0	96.100	31.98	53.31	1233
170.000	23.997	0.04179	10.0598	138.412	7073.8	8578.4	97.685	31.16	52.67	1211
175.000	23.656	0.04244	9.5771	130.947	7314.3	8842.2	99.212	30.96	53.04	1186
180.000	23.316	0.04311	9.1154	123.921	7555.2	9107.2	100.705	30.57	53.00	1157
185.000	22.977	0.04381	8.6740	117.314	7795.2	9372.3	102.158	30.26	53.03	1132
190.000	22.637	0.04453	8.2522	111.103	8034.5	9637.5	103.573	30.02	53.11	1107
195.000	22.298	0.04528	7.8495	105.269	8273.3	9903.4	104.954	29.81	53.21	1082
200.000	21.959	0.04606	7.4653	99.793	8511.7	10159.8	106.303	29.64	53.34	1059
205.000	21.621	0.04687	7.0992	94.661	8749.6	10416.8	107.621	29.50	53.45	1034
210.000	21.284	0.04771	6.7504	89.856	8987.1	10674.0	108.912	29.39	53.63	1011
215.000	20.948	0.04858	6.4187	85.367	9224.4	10932.2	110.176	29.31	53.83	989
220.000	20.613	0.04948	6.1034	81.183	9461.2	11192.5	111.415	29.04	53.75	967
225.000	20.279	0.05042	5.8040	77.292	9696.5	11454.7	112.624	28.92	53.85	947
230.000	19.945	0.05139	5.5201	73.586	9931.0	11718.1	113.808	28.86	53.93	927
235.000	19.612	0.05240	5.2511	70.054	10165.0	11983.3	114.971	28.83	54.12	907
240.000	19.280	0.05344	4.9964	67.285	10399.5	12250.1	116.112	28.85	54.29	888
245.000	18.948	0.05452	4.7555	64.471	10631.4	12518.4	117.233	28.89	54.43	871
250.000	18.617	0.05563	4.5279	61.898	10863.9	12788.7	118.334	28.95	54.53	853
255.000	18.287	0.05678	4.3131	59.558	11095.8	13059.9	119.416	29.04	54.72	835
260.000	17.958	0.05797	4.1103	57.439	11327.0	13333.9	120.480	29.15	54.85	818
265.000	17.630	0.05919	3.9192	55.529	11557.6	13610.4	121.526	29.27	54.95	802
270.000	17.303	0.06044	3.7392	53.817	11787.5	13889.3	122.553	29.40	55.03	787
275.000	16.977	0.06172	3.5696	52.292	12016.5	14170.5	123.564	29.55	55.08	773
280.000	16.652	0.06304	3.4101	50.942	12244.7	14454.1	124.556	29.71	55.11	760
285.000	16.328	0.06439	3.2600	49.757	12471.8	14739.6	125.532	29.88	55.11	748
290.000	16.005	0.06576	3.1188	48.726	12698.0	15025.1	126.490	30.05	55.08	737
295.000	15.683	0.06715	2.9861	47.837	12923.0	15311.4	127.431	30.23	55.03	727
300.000	15.362	0.06857	2.8614	47.081	13146.9	15598.4	128.356	30.42	54.95	718
305.000	15.042	0.07002	2.7441	46.452	13369.2	15886.9	129.264	30.62	54.74	710
310.000	14.723	0.07149	2.6341	45.928	13591.2	16176.9	130.154	30.82	54.46	701
315.000	14.405	0.07298	2.5314	45.498	13812.5	16468.4	131.028	31.02	54.15	693
320.000	14.088	0.07448	2.4361	45.161	14033.5	16761.4	131.888	31.24	53.81	685
325.000	13.772	0.07600	2.3481	44.916	14254.5	17055.9	132.733	31.46	53.45	677
330.000	13.457	0.07754	2.2674	44.764	14475.6	17351.9	133.563	31.69	53.08	670
335.000	13.143	0.07910	2.1939	44.696	14696.6	17649.4	134.378	31.92	52.69	663
340.000	12.830	0.08068	2.1274	44.714	14917.6	17948.4	135.178	32.16	52.29	656
345.000	12.518	0.08228	2.0679	44.816	15138.5	18248.9	135.963	32.41	51.88	649
350.000	12.207	0.08390	2.0154	44.993	15359.2	18550.9	136.733	32.67	51.45	643
355.000	11.897	0.08554	1.9699	45.334	15580.5	18853.4	137.488	32.94	51.00	637
360.000	11.588	0.08720	1.9314	45.739	15801.5	19157.4	138.228	33.22	50.53	631
365.000	11.280	0.08888	1.8999	46.208	16022.5	19462.9	138.953	33.51	50.05	625
370.000	10.973	0.09058	1.8754	46.741	16243.5	19769.9	139.663	33.81	49.55	620
375.000	10.667	0.09230	1.8579	47.338	16464.5	20077.9	140.358	34.12	49.03	615
380.000	10.362	0.09404	1.8464	47.999	16685.5	20386.9	141.038	34.44	48.49	610
385.000	10.058	0.09580	1.8409	48.724	16906.5	20696.9	141.703	34.77	47.93	605
390.000	9.755	0.09758	1.8414	49.503	17127.5	21007.9	142.353	35.11	47.35	600
395.000	9.453	0.09938	1.8479	50.336	17348.5	21319.9	143.003	35.46	46.75	595
400.000	9.152	0.10120	1.8604	51.223	17569.5	21631.9	143.643	35.82	46.13	590
405.000	8.852	0.10304	1.8789	52.164	17790.5	21943.9	144.273	36.19	45.49	585
410.000	8.553	0.10490	1.9034	53.159	18011.5	22255.9	144.893	36.57	44.83	580
415.000	8.255	0.10678	1.9339	54.208	18232.5	22567.9	145.503	36.96	44.15	575
420.000	7.958	0.10868	1.9704	55.311	18453.5	22879.9	146.103	37.36	43.45	570
425.000	7.662	0.11060	2.0129	56.468	18674.5	23191.9	146.693	37.77	42.73	565
430.000	7.367	0.11254	2.0614	57.679	18895.5	23503.9	147.273	38.19	42.00	560
435.000	7.073	0.11450	2.1159	58.944	19116.5	23815.9	147.843	38.62	41.25	555
440.000	6.780	0.11648	2.1764	60.263	19337.5	24127.9	148.403	39.06	40.49	550
445.000	6.488	0.11848	2.2429	61.636	19558.5	24439.9	148.953	39.51	39.73	545
450.000	6.197	0.12050	2.3154	63.063	19779.5	24751.9	149.493	40.07	38.97	540
455.000	5.907	0.12254	2.3939	64.544	19999.5	25063.9	150.023	40.64	38.20	535
460.000	5.618	0.12460	2.4784	66.079	20219.5	25375.9	150.543	41.22	37.43	530
465.000	5.330	0.12668	2.5689	67.668	20439.5	25687.9	151.053	41.81	36.65	525
470.000	5.043	0.12878	2.6654	69.311	20659.5	25999.9	151.553	42.41	35.87	520
475.000	4.758	0.13090	2.7679	71.008	20879.5	26311.9	152.043	43.02	35.08	515
480.000	4.474	0.13304	2.8764	72.759	21099.5	26623.9	152.523	43.64	34.28	510
485.000	4.191	0.13520	2.9909	74.564	21319.5	26935.9	153.003	44.27	33.47	505
490.000	3.909	0.13738	3.1114	76.423	21539.5	27247.9	153.473	44.91	32.65	500
495.000	3.628	0.13958	3.2379	78.336	21759.5	27559.9	153.933	45.56	31.82	495
500.000	3.348	0.14180	3.3704	80.303	21979.5	27871.9	154.383	46.22	31.00	490

METHANE ISOBAR AT P = 380.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	N
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
100.025	28.846	0.03467	19.6638	291.429	3625.6	4943.0	69.517	35.75	51.69	1621
105.000	28.516	0.03507	18.7854	280.337	3862.4	5195.0	72.024	35.31	52.07	1594
110.000	28.182	0.03548	17.9346	268.439	4104.6	5453.0	74.453	35.73	52.33	1565
115.000	27.848	0.03591	17.1202	256.308	4348.5	5713.1	76.782	35.48	52.44	1537
120.000	27.514	0.03635	16.3418	244.177	4593.1	5974.3	79.014	35.11	52.45	1509
125.000	27.178	0.03679	15.5983	232.209	4837.7	6235.9	81.155	34.70	52.43	1479
130.000	26.842	0.03726	14.8880	220.531	5082.1	6497.8	83.211	34.33	52.46	1449
135.000	26.503	0.03773	14.2092	209.230	5326.5	6760.3	85.193	34.05	52.53	1419
140.000	26.163	0.03822	13.5603	198.366	5571.3	7023.8	87.110	33.86	52.82	1389
145.000	25.820	0.03873	12.9394	187.980	5816.8	7288.6	88.968	33.74	53.11	1358
150.000	25.474	0.03926	12.3453	178.093	6063.1	7554.8	90.773	33.58	53.35	1329
155.000	25.126	0.03980	11.7765	168.712	6309.7	7822.0	92.525	33.29	53.48	1300
160.000	24.776	0.04036	11.2319	159.836	6555.5	8089.3	94.222	32.80	53.37	1273
165.000	24.424	0.04094	10.7104	151.453	6799.5	8355.4	95.860	32.08	53.03	1249
170.000	24.069	0.04155	10.2111	143.549	7040.5	8619.3	97.436	31.25	52.56	1227
175.000	23.712	0.04217	9.7332	136.102	7279.9	8881.5	98.953	31.05	52.71	1206
180.000	23.354	0.04282	9.2760	129.091	7517.7	9144.8	100.437	30.65	52.65	1175
185.000	22.994	0.04349	8.8387	122.494	7755.5	9408.1	101.880	30.34	52.66	1151
190.000	22.633	0.04418	8.4207	116.289	7992.5	9671.5	103.285	30.09	52.71	1127
195.000	22.270	0.04490	8.0215	110.457	8228.9	9935.3	104.655	29.88	52.79	1103
200.000	21.906	0.04565	7.6405	104.977	8464.8	10199.4	105.992	29.71	52.83	1079
205.000	21.542	0.04642	7.2771	99.834	8700.2	10464.2	107.300	29.57	53.00	1055
210.000	21.178	0.04722	6.9307	95.013	8935.2	10729.5	108.578	29.46	53.13	1034
215.000	20.813	0.04805	6.6010	90.500	9169.7	10995.5	109.830	29.37	53.27	1011
220.000	20.448	0.04890	6.2872	86.284	9403.8	11262.1	111.056	29.09	53.20	982
225.000	20.084	0.04979	5.9890	82.353	9636.3	11528.3	112.253	28.97	53.27	971
230.000	19.721	0.05071	5.7059	78.698	9868.0	11794.9	113.424	28.90	53.37	962
235.000	19.359	0.05165	5.4371	75.307	10099.2	12062.0	114.573	28.88	53.43	932
240.000	18.999	0.05263	5.1824	72.172	10329.8	12329.8	115.701	28.89	53.63	914
245.000	18.642	0.05364	4.9411	69.283	10559.9	12598.3	116.808	28.93	53.77	895
250.000	18.286	0.05469	4.7127	66.629	10789.5	12867.6	117.896	28.99	53.91	875
255.000	17.934	0.05576	4.4966	64.201	11018.6	13137.5	118.965	29.08	54.05	852
260.000	17.586	0.05686	4.2923	61.987	11247.2	13408.0	120.016	29.18	54.17	847
265.000	17.242	0.05800	4.0994	59.979	11475.3	13679.2	121.049	29.31	54.23	832
270.000	16.903	0.05916	3.9172	58.164	11702.7	13950.8	122.064	29.44	54.37	815
275.000	16.569	0.06035	3.7453	56.533	11929.4	14222.9	123.063	29.59	54.45	805
280.000	16.240	0.06157	3.5831	55.076	12155.4	14495.3	124.044	29.75	54.50	793
285.000	15.918	0.06282	3.4302	53.780	12380.6	14767.8	125.009	29.92	54.52	782
290.000	15.603	0.06409	3.2860	52.638	12605.0	15040.5	125.957	30.10	54.53	771
295.000	15.294	0.06538	3.1501	51.638	12828.5	15313.1	126.890	30.28	54.52	761
300.000	14.993	0.06670	3.0221	50.770	13051.1	15585.0	127.806	30.47	54.48	752
310.000	14.413	0.06933	2.7878	49.398	13493.3	16129.9	129.590	30.88	54.35	730
320.000	13.864	0.07213	2.5799	48.450	13931.7	16672.5	131.313	31.30	54.17	723
330.000	13.346	0.07492	2.3954	47.866	14366.3	17213.2	132.977	31.75	53.95	712
340.000	12.863	0.07774	2.2313	47.590	14797.4	17751.5	134.584	32.21	53.71	703
350.000	12.410	0.08058	2.0853	47.578	15225.3	18287.3	136.137	32.69	53.45	695
360.000	11.986	0.08343	1.9551	47.788	15650.5	18820.7	137.640	33.18	53.22	691
370.000	11.591	0.08627	1.8388	48.183	16073.5	19351.8	139.095	33.66	53.01	687
380.000	11.223	0.08911	1.7344	48.718	16494.9	19881.0	140.506	34.20	52.83	683
390.000	10.878	0.09193	1.6406	49.344	16915.4	20408.5	141.876	34.72	52.63	683
400.000	10.557	0.09473	1.5559	50.017	17335.5	20935.1	143.209	35.25	52.62	682
420.000	9.973	0.10027	1.4093	51.438	18175.9	21987.2	149.776	36.32	52.63	682
440.000	9.457	0.10574	1.2669	52.922	19023.0	23041.3	155.228	37.41	52.81	682
460.000	8.997	0.11115	1.1836	54.462	19876.7	24100.3	159.582	38.50	53.12	684
480.000	8.585	0.11648	1.0953	56.083	20740.1	25166.5	162.850	39.58	53.52	687
500.000	8.214	0.12175	1.0191	57.793	21615.0	26241.4	165.044	40.66	53.98	692

METHANE ISOBAR AT P = 400.0 BAR

T	DEN	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
100.496	28.880	0.03463	19.6174	293.083	3635.5	5020.5	63.606	35.86	51.64	1.23
105.000	28.587	0.03498	18.8370	283.552	3848.6	5247.9	71.860	35.93	52.00	1.60
110.000	28.256	0.03533	17.9976	272.034	4089.8	5535.5	77.286	35.84	52.25	1.57
115.000	27.925	0.03581	17.1933	260.213	4332.8	5765.2	76.611	35.59	52.34	1.54
120.000	27.595	0.03624	16.4240	248.332	4576.3	6025.8	73.839	35.22	52.34	1.51
125.000	27.264	0.03668	15.6988	236.570	4819.7	6286.8	80.974	34.80	52.30	1.48
130.000	26.932	0.03713	14.9863	225.057	5062.8	6548.1	83.026	34.43	52.32	1.46
135.000	26.598	0.03750	14.3148	213.889	5305.9	6809.8	85.002	34.15	52.43	1.43
140.000	26.262	0.03808	13.6726	203.132	5549.3	7072.4	86.917	33.96	52.64	1.40
145.000	25.925	0.03867	13.0582	192.829	5793.4	7336.3	88.764	33.83	52.91	1.37
150.000	25.585	0.03909	12.4702	183.006	6038.1	7601.5	90.552	33.68	53.15	1.34
155.000	25.243	0.03961	11.9072	173.676	6283.0	7867.6	92.307	33.49	53.25	1.31
160.000	24.899	0.04016	11.3680	164.839	6527.2	8133.7	93.996	32.89	53.12	1.23
165.000	24.554	0.04073	10.8517	156.487	6769.4	8398.5	95.626	32.17	52.75	1.20
170.000	24.206	0.04131	10.3572	148.504	7008.6	8661.1	97.194	31.34	52.23	1.24
175.000	23.857	0.04192	9.8839	141.174	7245.1	8921.6	98.703	31.13	52.41	1.21
180.000	23.506	0.04254	9.4308	134.176	7481.9	9183.6	100.178	30.74	52.33	1.13
185.000	23.154	0.04319	8.9974	127.587	7717.0	9445.2	101.612	30.42	52.32	1.10
190.000	22.801	0.04386	8.5830	121.386	7952.6	9706.9	103.007	30.17	52.35	1.11
195.000	22.447	0.04455	8.1870	115.554	8188.8	9968.8	104.368	29.96	52.41	1.12
200.000	22.092	0.04526	7.8088	110.070	8424.4	10231.0	105.695	29.78	52.48	1.10
205.000	21.738	0.04600	7.4479	104.918	8659.5	10493.6	106.992	29.64	52.58	1.07
210.000	21.383	0.04677	7.1036	100.082	8886.1	10756.7	108.251	29.52	52.63	1.05
215.000	21.026	0.04756	6.7758	95.548	9118.2	11020.4	109.502	29.43	52.73	1.03
220.000	20.674	0.04837	6.4635	91.303	9349.8	11284.7	110.717	29.15	52.71	1.01
225.000	20.320	0.04921	6.1663	87.336	9579.8	11548.3	111.901	29.03	52.75	995
230.000	19.966	0.05008	5.8838	83.637	9809.0	11812.2	113.062	28.96	52.86	975
235.000	19.617	0.05098	5.6155	80.195	10037.6	12076.7	114.199	28.93	52.94	955
240.000	19.268	0.05190	5.3607	77.002	10265.6	12341.7	115.315	28.93	53.00	935
245.000	18.921	0.05285	5.1190	74.047	10493.2	12607.3	116.410	28.97	53.13	921
250.000	18.572	0.05383	4.8898	71.321	10720.3	12873.6	117.486	29.04	53.32	904
255.000	18.235	0.05484	4.6727	68.814	10947.0	13140.5	118.543	29.12	53.45	887
260.000	17.898	0.05587	4.4671	66.517	11173.2	13408.1	119.583	29.23	53.54	872
265.000	17.564	0.05694	4.2725	64.419	11398.9	13676.3	120.604	29.35	53.63	857
270.000	17.234	0.05802	4.0865	62.512	11624.1	13945.0	121.609	29.48	53.73	843
275.000	16.910	0.05914	3.9144	60.785	11848.7	14214.2	122.597	29.63	53.87	830
280.000	16.591	0.06028	3.7499	59.229	12072.7	14483.7	123.566	29.79	53.94	815
285.000	16.277	0.06144	3.5944	57.834	12296.1	14753.6	124.523	29.96	53.99	800
290.000	15.969	0.06262	3.4476	56.590	12518.8	15023.6	125.463	30.14	54.03	795
295.000	15.666	0.06383	3.3088	55.487	12740.8	15293.8	126.386	30.33	54.04	785
300.000	15.373	0.06505	3.1778	54.518	12962.0	15564.0	127.294	30.52	54.04	775
310.000	14.804	0.06755	2.9373	52.943	13402.2	16104.2	129.006	30.93	53.99	759
320.000	14.264	0.07011	2.7229	51.797	13839.7	16643.5	130.778	31.36	53.89	743
330.000	13.753	0.07271	2.5317	51.021	14273.1	17181.6	132.434	31.82	53.73	733
340.000	13.271	0.07535	2.3611	50.561	14704.1	17718.2	134.036	32.28	53.57	723
350.000	12.819	0.07811	2.2086	50.371	15132.5	18253.0	135.586	32.77	53.33	710
360.000	12.394	0.08068	2.0720	50.412	15558.6	18786.0	137.088	33.26	53.22	703
370.000	11.996	0.08330	1.9496	50.650	15983.0	19317.5	138.544	33.77	53.05	704
380.000	11.624	0.08603	1.8395	51.052	16406.1	19847.4	139.957	34.29	52.93	701
390.000	11.275	0.08889	1.7402	51.581	16828.4	20376.1	141.330	34.81	52.62	698
400.000	10.948	0.09184	1.6505	52.197	17250.4	20904.0	142.657	35.34	52.75	697
410.000	10.634	0.09488	1.5749	53.550	18095.8	21939.0	145.240	36.42	52.77	695
420.000	10.327	0.10170	1.5051	54.982	18945.8	23016.1	147.839	37.51	52.95	695
430.000	10.024	0.10680	1.4553	56.463	19803.5	24076.1	150.059	38.51	53.27	697
440.000	9.736	0.11191	1.4164	57.993	20670.9	25147.4	152.335	39.09	53.67	693
500.000	8.555	0.11693	1.0803	59.597	21549.6	26225.5	154.535	40.77	54.15	702

METHANE ISOBAR AT P = 450.0 BAR

T	DEN	VOL	DP/DT	UP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	M/SEC
101.667	28.963	0.03453	19.5048	296.994	3660.7	5214.4	63.827	36.15	51.67	1627
105.000	28.761	0.03477	18.9561	291.033	3815.6	5390.2	71.460	36.20	51.87	1612
110.000	28.437	0.03517	18.1449	280.522	4054.6	5637.1	73.879	36.11	52.08	1583
115.000	28.114	0.03557	17.3653	269.517	4295.2	5835.8	76.196	35.85	52.13	1563
120.000	27.792	0.03598	16.6182	258.301	4536.2	6155.3	78.414	35.48	52.03	1537
125.000	27.471	0.03640	15.9032	247.079	4776.9	6415.0	81.538	35.06	52.02	1512
130.000	27.148	0.03683	15.2193	235.003	5017.2	6674.7	82.578	34.68	51.99	1485
135.000	26.826	0.03728	14.5650	225.185	5257.2	6934.7	84.541	34.40	52.07	1458
140.000	26.502	0.03773	13.9390	214.706	5497.5	7195.5	86.438	34.21	52.25	1430
145.000	26.176	0.03820	13.3398	204.621	5738.2	7457.3	88.275	34.07	52.48	1402
150.000	25.850	0.03869	12.7661	194.908	5979.4	7720.2	90.058	33.91	52.63	1374
155.000	25.522	0.03918	12.2165	185.767	6220.6	7943.9	91.786	33.62	52.74	1348
160.000	25.192	0.03970	11.6900	177.027	6461.0	8247.3	93.459	33.11	52.58	1324
165.000	24.861	0.04022	11.1855	168.746	6699.2	8509.2	95.071	32.38	52.18	1302
170.000	24.529	0.04077	10.7021	160.916	6934.3	8756.8	95.621	31.55	51.66	1282
175.000	24.196	0.04133	10.2390	153.523	7166.5	9026.3	98.111	31.34	51.75	1257
180.000	23.862	0.04191	9.7955	146.549	7399.0	9284.8	99.567	30.94	51.13	1235
185.000	23.528	0.04250	9.3708	139.974	7630.2	9542.8	100.981	30.62	51.58	1212
190.000	23.193	0.04312	8.9643	133.779	7860.4	9800.7	102.357	30.36	51.57	1190
195.000	22.858	0.04375	8.5754	127.943	8083.9	10058.6	103.697	30.14	51.53	1168
200.000	22.523	0.04440	8.2036	122.447	8318.6	10316.6	105.003	29.96	51.63	1147
205.000	22.188	0.04507	7.8482	117.272	8546.7	10574.9	106.279	29.80	51.63	1125
210.000	21.854	0.04576	7.5088	112.403	8774.3	10833.4	107.524	29.68	51.7+	1103
215.000	21.520	0.04647	7.1847	107.823	9001.2	11092.3	108.743	29.58	51.81	1083
220.000	21.187	0.04720	6.8755	103.519	9227.5	11351.4	109.935	29.30	51.68	1067
225.000	20.856	0.04795	6.5807	99.479	9452.2	11609.8	111.096	29.17	51.63	1048
230.000	20.526	0.04872	6.2997	95.691	9676.0	11868.4	112.232	29.09	51.73	1030
235.000	20.198	0.04951	6.0320	92.145	9893.2	12127.2	113.346	29.06	51.80	1012
240.000	19.871	0.05032	5.7772	88.832	10121.9	12386.4	114.437	29.06	51.83	994
245.000	19.547	0.05116	5.5347	85.742	10344.1	12646.2	115.508	29.09	52.00	977
250.000	19.226	0.05201	5.3041	82.867	10565.9	12906.5	116.560	29.15	52.11	961
255.000	18.907	0.05289	5.0848	80.197	10787.3	13167.3	117.593	29.23	52.23	945
260.000	18.592	0.05379	4.8765	77.725	11008.4	13428.8	118.609	29.34	52.35	930
265.000	18.280	0.05470	4.6785	75.442	11229.2	13690.8	119.607	29.46	52.47	915
270.000	17.972	0.05564	4.4905	73.339	11449.6	13953.5	120.589	29.59	52.58	901
275.000	17.668	0.05660	4.3120	71.409	11669.6	14216.6	121.554	29.74	52.68	888
280.000	17.368	0.05753	4.1426	69.642	11889.3	14480.3	122.504	29.91	52.75	875
285.000	17.073	0.05857	3.9818	68.032	12108.7	14744.4	123.439	30.08	52.86	863
290.000	16.783	0.05958	3.8293	66.569	12327.6	15008.9	124.359	30.26	52.94	852
295.000	16.498	0.06051	3.6846	65.245	12546.2	15273.8	125.265	30.45	53.01	841
300.000	16.218	0.06150	3.5473	64.052	12764.3	15538.9	126.156	30.65	53.05	831
310.000	15.676	0.06379	3.2936	62.032	13199.3	16069.9	127.897	31.07	53.13	813
320.000	15.157	0.06598	3.0653	60.447	13632.5	16601.5	129.585	31.52	53.17	797
330.000	14.662	0.06820	2.8598	59.244	14064.0	17133.2	131.221	31.98	53.17	784
340.000	14.191	0.07047	2.6748	58.372	14493.9	17664.6	132.808	32.46	53.15	772
350.000	13.745	0.07275	2.5080	57.767	14922.3	18196.2	134.348	32.95	53.12	762
360.000	13.323	0.07506	2.3575	57.448	15349.6	18727.2	135.844	33.46	53.08	754
370.000	12.924	0.07737	2.2214	57.323	15776.0	19257.8	137.298	33.98	53.05	747
380.000	12.548	0.07970	2.0983	57.382	16201.9	19788.2	138.713	34.50	53.62	741
390.000	12.193	0.08202	1.9865	57.600	16627.6	20318.3	140.090	35.04	53.61	737
400.000	11.858	0.08433	1.8849	57.956	17053.4	20848.4	141.432	35.58	53.62	734
420.000	11.244	0.08894	1.7679	58.982	17907.2	21909.4	144.020	36.67	53.10	730
440.000	10.696	0.09349	1.6596	60.254	18766.0	22973.1	146.494	37.76	53.23	728
460.000	10.205	0.09739	1.5439	61.617	19632.3	24041.3	148.869	38.86	53.60	725
480.000	9.763	0.10243	1.3263	63.026	20508.4	25117.7	151.159	39.95	54.01	723
500.000	9.361	0.10882	1.2332	64.467	21395.6	26202.6	153.373	41.03	54.49	731

METHANE ISOBAR AT P = 500.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
102.826	29.046	0.03443	19.3970	300.588	3686.8	5438.2	71.048	36.42	51.67	1631
105.000	28.931	0.03456	19.0016	297.687	3784.6	5512.8	71.072	36.46	51.77	1623
110.000	28.613	0.03495	18.2763	288.274	4021.6	5759.1	73.485	36.37	51.94	1602
115.000	28.297	0.03534	17.5230	278.159	4260.1	6027.1	75.795	36.11	51.93	1580
120.000	27.982	0.03574	16.7975	267.664	4493.8	6285.6	78.005	35.72	51.88	1557
125.000	27.669	0.03614	16.1019	257.027	4737.1	6544.2	80.121	35.30	51.77	1533
130.000	27.356	0.03656	15.4357	246.425	4974.8	6802.6	82.150	34.92	51.72	1508
135.000	27.042	0.03698	14.7978	235.987	5212.2	7051.1	84.102	34.63	51.75	1483
140.000	26.729	0.03741	14.1869	225.810	5449.6	7320.2	85.987	34.44	51.90	1457
145.000	26.414	0.03780	13.6018	215.963	5687.3	7580.2	87.812	34.30	52.11	1430
150.000	26.099	0.03832	13.0412	206.493	5925.4	7841.2	89.581	34.13	52.27	1404
155.000	25.783	0.03879	12.5039	197.431	6163.5	8102.8	91.296	33.84	52.33	1379
160.000	25.465	0.03927	11.9889	188.794	6400.5	8353.9	92.954	33.33	52.11	1355
165.000	25.148	0.03977	11.4951	180.587	6635.2	8623.5	94.552	32.59	51.68	1335
170.000	24.829	0.04028	11.0216	172.868	6868.8	8884.5	96.086	31.75	51.14	1317
175.000	24.510	0.04080	10.5677	165.448	7095.4	9135.4	97.561	31.54	51.23	1294
180.000	24.190	0.04134	10.1325	158.494	7324.0	9381.0	99.001	31.13	51.00	1273
185.000	23.871	0.04189	9.7155	151.928	7551.4	9646.0	100.399	30.81	50.98	1252
190.000	23.551	0.04246	9.3159	145.732	7777.8	9900.8	101.758	30.54	50.94	1231
195.000	23.231	0.04305	8.9332	139.888	8003.2	10155.5	103.081	30.31	50.93	1210
200.000	22.912	0.04364	8.5668	134.376	8227.9	10410.1	104.370	30.13	50.93	1190
205.000	22.594	0.04420	8.2161	129.179	8451.9	10664.8	105.628	29.97	50.95	1170
210.000	22.276	0.04483	7.8807	124.279	8675.2	10919.7	106.856	29.84	50.99	1151
215.000	21.960	0.04554	7.5600	119.660	8897.8	11174.7	108.057	29.73	51.03	1131
220.000	21.645	0.04620	7.2534	115.308	9119.9	11429.9	109.230	29.44	50.87	1114
225.000	21.331	0.04688	6.9605	111.210	9340.2	11684.2	110.373	29.31	50.85	1097
230.000	21.019	0.04758	6.6808	107.353	9559.7	11938.5	111.491	29.23	50.87	1079
235.000	20.709	0.04829	6.4138	103.727	9778.6	12193.0	112.586	29.19	50.92	1062
240.000	20.401	0.04902	6.1590	100.323	9996.9	12447.3	113.659	29.19	50.93	1045
245.000	20.095	0.04970	5.9159	97.129	10214.8	12713.0	114.711	29.22	51.03	1029
250.000	19.792	0.05053	5.6841	94.139	10432.3	12958.7	115.744	29.28	51.13	1013
255.000	19.491	0.05131	5.4632	91.344	10649.6	13214.8	116.758	29.36	51.23	997
260.000	19.194	0.05210	5.2526	88.735	10866.5	13471.6	117.756	29.46	51.40	982
265.000	18.899	0.05291	5.0520	86.300	11083.3	13728.9	118.736	29.58	51.52	963
270.000	18.608	0.05374	4.8609	84.049	11299.8	13986.8	119.700	29.71	51.63	954
275.000	18.321	0.05458	4.6789	81.957	11516.1	14245.2	120.648	29.86	51.75	941
280.000	18.037	0.05544	4.5056	80.021	11732.2	14504.2	121.582	30.03	51.89	923
285.000	17.758	0.05631	4.3405	78.236	11948.2	14753.8	122.501	30.20	51.97	915
290.000	17.483	0.05720	4.1834	76.593	12163.9	15023.9	123.405	30.39	52.07	904
295.000	17.212	0.05810	4.0339	75.087	12379.5	15284.5	124.296	30.58	52.16	893
300.000	16.946	0.05901	3.8915	73.709	12594.9	15545.5	125.173	30.78	52.25	883
310.000	16.427	0.06087	3.6271	71.315	13025.1	16068.8	126.839	31.21	52.43	864
320.000	15.929	0.06278	3.3874	69.357	13454.5	16593.5	128.555	31.66	52.53	847
330.000	15.451	0.06472	3.1702	67.786	13883.2	17119.3	130.173	32.14	52.63	832
340.000	14.993	0.06670	2.9733	66.557	14311.3	17646.1	131.746	32.53	52.72	819
350.000	14.557	0.06870	2.7945	65.627	14739.8	18173.6	133.275	33.13	52.79	807
360.000	14.142	0.07071	2.6321	64.958	15166.1	18701.8	134.763	33.65	52.85	797
370.000	13.740	0.07275	2.4844	64.516	15593.3	19230.6	136.211	34.17	52.91	783
380.000	13.371	0.07479	2.3499	64.271	16020.6	19759.9	137.623	34.71	52.97	762
390.000	13.015	0.07683	2.2272	64.199	16448.2	20290.0	139.000	35.25	53.04	755
400.000	12.677	0.07888	2.1151	64.277	16876.6	20820.7	140.344	35.80	53.12	741
420.000	12.053	0.08297	1.9184	64.810	17736.5	21885.0	142.940	36.90	53.31	704
440.000	11.491	0.08703	1.7525	65.736	18602.4	22953.7	145.426	38.00	53.57	663
460.000	10.984	0.09104	1.6113	66.918	19476.1	24028.3	147.814	39.10	53.90	753
480.000	10.525	0.09501	1.4902	68.218	20359.6	25110.1	150.116	40.20	54.33	758
500.000	10.108	0.09833	1.3854	69.566	21254.2	26200.8	152.342	41.27	54.77	753

METHANE ISOBAR AT P = 550.0 BAR

T DEG K	DEN MOL/L	VOL L/MOL	DP/DT BAR/K	DP/DD BAR-L/MOL	E J/MOL	H J/MOL	S J/MOL/K	CV J/MOL/K	CP J/MOL/K	W 1/SEC
103.974	29.126	0.03433	19.2938	303.866	3713.5	5601.8	70.269	36.66	51.67	1534
105.000	29.097	0.03437	19.1540	303.467	3755.3	5645.5	70.595	36.71	51.71	1632
110.000	28.784	0.03474	18.3987	295.260	3590.6	5901.4	73.104	36.61	51.84	1614
115.000	28.474	0.03512	17.6676	286.116	4227.1	6158.7	75.408	36.35	51.82	1599
120.000	28.166	0.03550	16.9632	276.407	4463.8	6416.5	77.611	35.96	51.71	1574
125.000	27.860	0.03589	16.2865	266.408	4699.9	6674.1	79.719	35.53	51.57	1552
130.000	27.555	0.03629	15.6373	256.322	4935.4	6931.4	81.740	35.15	51.48	1530
135.000	27.250	0.03670	15.0149	246.300	5170.3	7188.7	83.683	34.85	51.49	1509
140.000	26.945	0.03711	14.4184	236.455	5405.2	7446.4	85.557	34.66	51.61	1482
145.000	26.640	0.03754	13.8485	226.869	5640.3	7704.9	87.371	34.51	51.73	1457
150.000	26.335	0.03797	13.2982	217.602	5875.7	7964.2	89.129	34.34	51.92	1432
155.000	26.029	0.03842	12.7723	208.694	6110.6	8223.9	90.832	34.04	51.93	1403
160.000	25.723	0.03888	12.2678	200.171	6344.9	8483.1	92.478	33.53	51.71	1387
165.000	25.416	0.03935	11.7838	192.046	6576.6	8740.6	94.063	32.79	51.26	1363
170.000	25.109	0.03983	11.3194	184.323	6805.0	8995.5	95.585	31.94	50.63	1350
175.000	24.802	0.04032	10.8738	176.998	7030.4	9248.0	97.046	31.72	50.73	1328
180.000	24.495	0.04083	10.4483	170.062	7255.8	9501.2	98.473	31.31	50.55	1303
185.000	24.188	0.04134	10.0381	163.503	7473.9	9753.8	99.857	30.99	50.47	1284
190.000	23.881	0.04187	9.6427	157.304	7702.8	10005.9	101.202	30.71	50.41	1263
195.000	23.575	0.04242	9.2655	151.449	7924.9	10257.9	102.511	30.48	50.37	1244
200.000	23.269	0.04298	8.9039	145.920	8146.1	10509.7	103.786	30.29	50.35	1230
205.000	22.965	0.04355	8.5574	140.699	8366.5	10761.5	105.029	30.13	50.36	1211
210.000	22.661	0.04413	8.2255	135.770	8586.3	11013.3	106.243	30.00	50.37	1192
215.000	22.359	0.04473	7.9076	131.116	8805.4	11265.3	107.428	29.89	50.40	1174
220.000	22.058	0.04533	7.6034	126.722	9023.6	11517.3	108.587	29.59	50.22	1158
225.000	21.759	0.04596	7.3122	122.575	9240.5	11768.3	109.715	29.45	50.18	1141
230.000	21.462	0.04659	7.0336	118.662	9456.4	12019.2	110.818	29.37	50.19	1124
235.000	21.166	0.04725	6.7671	114.972	9671.7	12270.2	111.898	29.33	50.22	1108
240.000	20.873	0.04791	6.5124	111.494	9886.4	12521.4	112.956	29.32	50.28	1092
245.000	20.582	0.04859	6.2689	108.219	10100.8	12773.0	113.993	29.35	50.35	1076
250.000	20.294	0.04928	6.0362	105.138	10314.8	13025.0	115.011	29.40	50.44	1060
255.000	20.006	0.04998	5.8139	102.244	10528.5	13277.4	116.011	29.48	50.54	1044
260.000	19.725	0.05070	5.6015	99.527	10742.1	13530.4	116.994	29.58	50.65	1031
265.000	19.445	0.05143	5.3987	96.982	10955.5	13784.0	117.960	29.70	50.75	1015
270.000	19.169	0.05217	5.2050	94.601	11168.8	14038.1	118.910	29.84	50.83	1000
275.000	18.895	0.05292	5.0201	92.377	11382.0	14292.8	119.844	29.99	51.00	983
280.000	18.625	0.05363	4.8436	90.305	11595.1	14548.1	120.764	30.15	51.12	977
285.000	18.359	0.05447	4.6750	88.376	11808.2	14804.0	121.670	30.33	51.24	969
290.000	18.096	0.05526	4.5142	86.586	12021.2	15060.5	122.562	30.51	51.36	963
295.000	17.838	0.05605	4.3606	84.928	12234.2	15317.6	123.441	30.71	51.47	942
300.000	17.583	0.05687	4.2140	83.396	12447.2	15575.2	124.307	30.92	51.58	931
310.000	17.086	0.05853	3.9406	80.685	12873.0	16092.1	126.002	31.35	51.73	911
320.000	16.606	0.06022	3.6914	78.407	13298.9	16610.9	127.649	31.81	51.98	894
330.000	16.144	0.06194	3.4643	76.517	13724.8	17131.5	129.251	32.29	52.15	874
340.000	15.701	0.06369	3.2572	74.974	14150.8	17653.8	130.811	32.79	52.31	863
350.000	15.276	0.06546	3.0682	73.739	14577.1	18177.6	132.329	33.30	52.45	851
360.000	14.869	0.06726	2.8956	72.775	15003.8	18702.8	133.808	33.83	52.59	840
370.000	14.480	0.06906	2.7377	72.050	15430.9	19229.4	135.251	34.36	52.72	830
380.000	14.109	0.07088	2.5933	71.534	15858.9	19757.2	136.659	34.90	52.86	822
390.000	13.754	0.07270	2.4609	71.203	16287.7	20286.4	138.033	35.45	52.98	814
400.000	13.417	0.07453	2.3395	71.033	16717.6	20816.9	139.376	36.00	53.12	808
420.000	12.789	0.07819	2.1251	71.099	17581.8	21882.3	141.975	37.11	53.42	793
440.000	12.220	0.08184	1.9430	71.606	18453.1	22954.1	144.408	38.23	53.75	792
460.000	11.702	0.08546	1.7872	72.452	19333.0	24033.0	146.806	39.33	54.14	788
480.000	11.231	0.08904	1.6530	73.543	20222.9	25120.0	149.179	40.43	54.57	767
500.000	10.801	0.09258	1.5366	74.775	21124.0	26216.0	151.416	41.51	55.04	740

METHANE ISOBAR AT P = 000.0 BAR

T	DEN	VOL	OP/OT	OP/OD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
105.111	29.206	0.03424	19.1951	306.828	3740.9	5735.3	70.490	36.88	51.68	1637
110.000	28.952	0.03454	18.5071	301.436	3961.3	6033.7	72.733	36.85	51.75	1625
115.000	28.646	0.03491	17.7999	293.358	4196.1	6290.6	75.033	36.58	51.71	1608
120.000	28.344	0.03528	17.1164	284.511	4431.0	6547.8	77.231	36.18	51.57	1590
125.000	28.045	0.03566	16.4582	275.211	4665.1	6804.6	79.332	35.75	51.40	1570
130.000	27.746	0.03604	15.8255	265.690	4898.5	7051.0	81.346	35.36	51.29	1550
135.000	27.449	0.03643	15.2181	256.125	5131.3	7317.2	83.280	35.06	51.27	1528
140.000	27.152	0.03683	14.6352	246.645	5363.9	7573.7	85.146	34.86	51.35	1505
145.000	26.855	0.03724	14.0759	237.349	5596.6	7830.8	86.951	34.72	51.50	1481
150.000	26.555	0.03765	13.5391	228.309	5829.5	8088.7	88.699	34.54	51.62	1458
155.000	26.262	0.03809	13.0240	219.574	6062.2	8346.8	90.392	34.24	51.60	1435
160.000	25.966	0.03851	12.5294	211.180	6293.6	8604.4	92.027	33.72	51.35	1415
165.000	25.669	0.03896	12.0545	203.148	6522.6	8860.1	93.601	32.98	50.89	1395
170.000	25.372	0.03941	11.5985	195.489	6748.3	9113.0	95.111	32.13	50.30	1371
175.000	25.076	0.03988	11.1605	188.205	6970.8	9363.6	96.561	31.90	50.32	1350
180.000	24.779	0.04036	10.7400	181.292	7193.3	9614.7	97.976	31.49	50.14	1341
185.000	24.483	0.04084	10.3361	174.741	7414.5	9865.1	99.348	31.16	50.03	1322
190.000	24.188	0.04134	9.9484	168.539	7634.5	10115.1	100.681	30.88	49.95	1304
195.000	23.893	0.04185	9.5761	162.673	7853.5	10364.7	101.978	30.65	49.90	1285
200.000	23.599	0.04237	9.2189	157.125	8071.7	10614.1	103.241	30.45	49.87	1267
205.000	23.307	0.04291	8.8762	151.881	8289.1	10863.5	104.472	30.29	49.85	1249
210.000	23.015	0.04345	8.5475	146.923	8505.8	11112.8	105.574	30.15	49.85	1231
215.000	22.725	0.04400	8.2322	142.235	8721.8	11362.1	106.847	30.03	49.87	1213
220.000	22.436	0.04457	7.9300	137.803	8937.2	11611.4	107.994	29.74	49.68	1195
225.000	22.149	0.04515	7.6403	133.613	9150.8	11859.7	109.110	29.59	49.63	1182
230.000	21.864	0.04574	7.3628	129.652	9363.6	12107.8	110.201	29.51	49.62	1169
235.000	21.582	0.04634	7.0969	125.908	9575.8	12356.0	111.268	29.46	49.65	1150
240.000	21.301	0.04695	6.8422	122.370	9787.5	12604.3	112.314	29.46	49.63	1134
245.000	21.022	0.04757	6.5984	119.028	9998.9	12853.0	113.339	29.48	49.75	1119
250.000	20.747	0.04820	6.3649	115.874	10209.9	13102.0	114.345	29.53	49.84	1104
255.000	20.473	0.04884	6.1415	112.898	10420.7	13351.4	115.333	29.61	49.94	1089
260.000	20.203	0.04950	5.9276	110.095	10631.4	13601.3	116.304	29.71	50.04	1075
265.000	19.935	0.05015	5.7229	107.456	10842.0	13851.8	117.258	29.83	50.15	1061
270.000	19.670	0.05084	5.5271	104.974	11052.6	14102.9	118.196	29.96	50.27	1049
275.000	19.408	0.05152	5.3397	102.644	11263.1	14354.0	119.120	30.11	50.39	1035
280.000	19.150	0.05222	5.1605	100.458	11473.7	14606.9	120.029	30.28	50.52	1022
285.000	18.895	0.05292	4.9889	98.412	11684.3	14859.8	120.924	30.46	50.65	1010
290.000	18.643	0.05364	4.8249	96.499	11895.0	15113.3	121.806	30.64	50.77	998
295.000	18.395	0.05436	4.6679	94.715	12105.7	15367.5	122.675	30.84	50.91	987
300.000	18.150	0.05510	4.5177	93.052	12316.6	15622.3	123.532	31.05	51.07	975
310.000	17.672	0.05659	4.2366	90.073	12738.6	16133.3	125.209	31.49	51.27	955
320.000	17.216	0.05811	3.9793	87.519	13161.2	16647.7	126.840	31.95	51.50	935
330.000	16.763	0.05966	3.7436	85.352	13584.5	17163.8	128.428	32.44	51.72	921
340.000	16.332	0.06123	3.5277	83.532	14008.4	17682.1	129.976	32.95	51.94	905
350.000	15.916	0.06282	3.3298	82.025	14433.2	18202.5	131.484	33.47	52.14	892
360.000	15.521	0.06443	3.1482	80.796	14859.0	18724.8	132.956	34.00	52.33	880
370.000	15.139	0.06605	2.9815	79.815	15285.8	19249.1	134.392	34.54	52.52	870
380.000	14.773	0.06769	2.8283	79.053	15713.8	19775.2	135.795	35.09	52.71	860
390.000	14.423	0.06933	2.6873	78.485	16143.2	20303.2	137.166	35.64	52.89	852
400.000	14.088	0.07099	2.5574	78.089	16574.2	20833.0	138.508	36.20	53.03	845
420.000	13.462	0.07428	2.3271	77.732	17441.4	21838.4	141.107	37.32	53.46	833
440.000	12.889	0.07758	2.1301	77.849	18316.7	22971.8	143.603	38.44	53.88	825
460.000	12.366	0.08087	1.9607	78.338	19201.5	24053.6	146.008	39.55	54.31	819
480.000	11.887	0.08413	1.8141	79.121	20096.8	25144.5	148.329	40.65	54.74	815
500.000	11.447	0.08736	1.6866	80.128	21003.6	26245.0	150.575	41.73	55.28	813

METHANE ISOBAR AT P = 650.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
106.238	29.284	0.03415	19.1005	309.474	3768.8	5388.5	70.710	37.09	51.63	1640
110.000	29.116	0.03435	18.6039	306.750	3933.7	6166.1	72.371	37.07	51.71	1633
115.000	28.815	0.03470	17.9209	299.850	4166.9	6422.7	74.668	36.80	51.63	1613
120.000	28.518	0.03507	17.2581	291.950	4400.1	6679.4	76.862	36.40	51.45	1604
125.000	28.224	0.03543	16.6180	283.417	4632.5	6935.6	78.958	35.96	51.25	1587
130.000	27.931	0.03580	16.0015	274.517	4864.0	7191.2	80.966	35.57	51.11	1568
135.000	27.640	0.03618	15.4085	265.454	5094.9	7446.5	82.894	35.27	51.07	1548
140.000	27.351	0.03656	14.8388	256.379	5325.4	7701.9	84.752	35.06	51.13	1527
145.000	27.062	0.03695	14.2915	247.406	5556.0	7957.9	86.548	34.91	51.26	1505
150.000	26.773	0.03735	13.7658	238.620	5786.7	8214.5	88.288	34.73	51.35	1483
155.000	26.485	0.03776	13.2608	230.081	6017.0	8471.3	89.971	34.43	51.31	1462
160.000	26.197	0.03817	12.7755	221.835	6246.1	8727.3	91.597	33.90	51.06	1443
165.000	25.909	0.03860	12.3092	213.912	6472.7	8981.5	93.161	33.16	50.57	1425
170.000	25.621	0.03903	11.8610	206.329	6695.8	9232.8	94.662	32.30	49.95	1410
175.000	25.334	0.03947	11.4303	199.095	6915.9	9481.6	96.102	32.08	49.97	1390
180.000	25.047	0.03992	11.0162	192.211	7135.8	9730.9	97.507	31.66	49.77	1372
185.000	24.761	0.04039	10.6182	185.672	7354.3	9979.4	98.859	31.32	49.64	1354
190.000	24.475	0.04086	10.2357	179.471	7571.7	10227.4	100.191	31.04	49.55	1336
195.000	24.191	0.04134	9.8681	173.595	7788.1	10475.1	101.478	30.81	49.50	1319
200.000	23.907	0.04183	9.5149	168.030	8003.6	10722.5	102.730	30.60	49.46	1301
205.000	23.624	0.04233	9.1757	162.762	8218.3	10969.7	103.951	30.44	49.44	1284
210.000	23.343	0.04284	8.8499	157.776	8432.3	11216.9	105.142	30.29	49.43	1267
215.000	23.064	0.04336	8.5370	153.056	8645.7	11464.0	106.305	30.18	49.43	1250
220.000	22.785	0.04389	8.2367	148.589	8858.4	11711.0	107.442	29.88	49.22	1235
225.000	22.509	0.04443	7.9485	144.359	9069.3	11957.0	108.547	29.73	49.17	1220
230.000	22.235	0.04497	7.6719	140.354	9279.5	12202.8	109.628	29.64	49.15	1204
235.000	21.963	0.04553	7.4066	136.563	9489.0	12448.6	110.685	29.60	49.17	1189
240.000	21.693	0.04610	7.1521	132.973	9698.1	12694.5	111.720	29.59	49.21	1174
245.000	21.425	0.04667	6.9079	129.575	9906.9	12940.7	112.736	29.61	49.27	1159
250.000	21.160	0.04726	6.6739	126.359	10115.3	13187.2	113.732	29.66	49.34	1145
255.000	20.897	0.04785	6.4494	123.317	10323.7	13434.2	114.710	29.74	49.44	1130
260.000	20.637	0.04846	6.2343	120.442	10531.9	13681.6	115.671	29.84	49.54	1116
265.000	20.379	0.04907	6.0280	117.725	10740.1	13929.6	116.615	29.95	49.65	1103
270.000	20.125	0.04969	5.8303	115.160	10948.3	14178.2	117.545	30.09	49.77	1090
275.000	19.873	0.05032	5.6408	112.742	11156.5	14427.3	118.459	30.24	49.89	1077
280.000	19.624	0.05096	5.4592	110.464	11364.9	14677.1	119.359	30.41	50.02	1064
285.000	19.379	0.05160	5.2851	108.319	11573.4	14927.6	120.246	30.58	50.15	1052
290.000	19.136	0.05226	5.1183	106.304	11782.0	15178.7	121.119	30.77	50.29	1041
295.000	18.897	0.05292	4.9583	104.413	11990.8	15430.4	121.980	30.37	50.42	1029
300.000	18.662	0.05359	4.8050	102.641	12199.8	15682.9	122.828	31.18	50.55	1019
305.000	18.430	0.05427	4.6573	100.973	12409.9	15936.9	123.661	31.62	50.83	993
310.000	18.200	0.05494	4.5153	99.432	12618.5	16189.9	124.491	32.09	51.10	973
315.000	17.973	0.05563	4.3783	97.912	12827.6	16442.9	125.316	32.59	51.35	952
320.000	17.750	0.05633	4.2463	96.412	13036.1	16695.5	126.139	33.10	51.61	931
325.000	17.530	0.05704	4.1193	94.932	13245.9	16948.1	126.961	33.62	51.89	910
330.000	17.313	0.05774	4.0007	93.482	13455.9	17201.7	127.785	34.16	52.20	890
335.000	17.100	0.05846	3.8877	92.062	13666.1	17454.2	128.607	34.71	52.52	870
340.000	16.890	0.05916	3.7800	90.672	13876.6	17706.6	129.429	35.26	52.85	850
345.000	16.683	0.05988	3.6773	89.312	14087.3	17959.1	130.251	35.82	53.17	830
350.000	16.480	0.06061	3.5802	87.982	14298.1	18211.5	131.073	36.39	53.50	810
355.000	16.280	0.06135	3.4877	86.682	14509.0	18463.9	131.895	37.00	53.83	790
360.000	16.083	0.06210	3.3997	85.412	14720.0	18716.3	132.717	37.62	54.17	770
365.000	15.890	0.06286	3.3161	84.172	14931.1	18968.7	133.539	38.25	54.52	750
370.000	15.700	0.06363	3.2369	83.002	15142.2	19221.1	134.361	38.90	54.87	730
375.000	15.513	0.06441	3.1619	81.862	15353.3	19473.5	135.183	39.56	55.23	710
380.000	15.330	0.06520	3.0911	80.752	15564.4	19725.9	136.005	40.23	55.60	690
385.000	15.150	0.06600	3.0245	79.672	15775.5	19978.3	136.827	40.91	55.97	670
390.000	14.973	0.06681	2.9621	78.622	15986.6	20230.7	137.649	41.60	56.35	650
395.000	14.800	0.06763	2.9037	77.602	16197.7	20483.1	138.471	42.30	56.73	630
400.000	14.630	0.06846	2.8493	76.612	16408.8	20735.5	139.293	43.01	57.12	610
405.000	14.463	0.06930	2.7989	75.652	16619.9	20987.9	140.115	43.73	57.52	590
410.000	14.300	0.07016	2.7525	74.722	16831.0	21240.3	140.937	44.46	57.93	570
415.000	14.140	0.07103	2.7101	73.822	17042.1	21492.7	141.759	45.20	58.35	550
420.000	14.000	0.07190	2.6717	72.952	17253.2	21745.1	142.581	45.95	58.77	530
425.000	13.863	0.07279	2.6373	72.112	17464.3	21997.5	143.403	46.71	59.20	510
430.000	13.730	0.07369	2.6069	71.302	17675.4	22250.0	144.225	47.48	59.63	490
435.000	13.600	0.07460	2.5805	70.522	17886.5	22502.4	145.047	48.26	60.07	470
440.000	13.473	0.07552	2.5581	69.772	18097.6	22754.8	145.869	49.05	60.52	450
445.000	13.350	0.07645	2.5397	69.052	18308.7	23007.2	146.691	49.85	60.97	430
450.000	13.230	0.07739	2.5253	68.362	18519.8	23259.6	147.513	50.66	61.43	410
455.000	13.113	0.07834	2.5149	67.702	18730.9	23512.0	148.335	51.48	61.90	390
460.000	13.000	0.07930	2.5085	67.072	18942.0	23764.4	149.157	52.30	62.37	370
465.000	12.890	0.08027	2.5061	66.472	19153.1	24016.8	149.979	53.13	62.85	350
470.000	12.783	0.08125	2.5077	65.902	19364.2	24269.2	150.801	53.97	63.33	330
475.000	12.680	0.08224	2.5133	65.362	19575.3	24521.6	151.623	54.82	63.82	310
480.000	12.580	0.08324	2.5229	64.852	19786.4	24774.0	152.445	55.68	64.32	290
485.000	12.483	0.08425	2.5365	64.372	19997.5	25026.4	153.267	56.55	64.83	270
490.000	12.390	0.08527	2.5541	63.922	20208.6	25278.8	154.089	57.43	65.35	250
495.000	12.300	0.08630	2.5757	63.502	20419.7	25531.2	154.911	58.32	65.87	230
500.000	12.213	0.08734	2.6013	63.112	20630.8	25783.6	155.733	59.22	66.40	210

METHANE ISO3AR AT P = 700.0 BAR

T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG K	MOL/L	L/MOL	BAR/K	BAR-L/MOL	J/MOL	J/MOL	J/MOL/K	J/MOL/K	J/MOL/K	1/SEC
107.355	29.360	0.03406	19.0100	311.804	3797.3	6131.5	70.928	37.27	51.70	1642
110.000	29.278	0.03416	18.6697	311.137	3907.6	6238.5	72.017	37.29	51.70	1640
115.000	28.980	0.03451	18.0311	305.543	4139.4	6554.8	74.313	37.01	51.58	1623
120.000	28.687	0.03486	17.3691	298.669	4371.1	6811.2	76.504	36.61	51.37	1610
125.000	28.398	0.03521	16.7669	291.000	4601.9	7066.9	78.596	36.17	51.14	1602
130.000	28.111	0.03557	16.1663	282.786	4831.7	7321.8	80.598	35.77	50.97	1580
135.000	27.826	0.03594	15.5875	274.277	5060.7	7576.4	82.520	35.46	50.91	1567
140.000	27.542	0.03631	15.0305	265.651	5289.4	7830.9	84.372	35.25	50.95	1547
145.000	27.260	0.03668	14.4948	257.037	5518.0	8095.9	86.161	35.10	51.05	1527
150.000	26.978	0.03707	13.9796	248.535	5746.7	8341.4	87.693	34.92	51.12	1505
155.000	26.697	0.03746	13.4843	240.220	5975.0	8597.0	89.159	34.60	51.00	1480
160.000	26.417	0.03785	13.0079	232.145	6201.9	8851.7	91.187	34.08	50.79	1463
165.000	26.137	0.03826	12.5497	224.349	6426.3	9104.5	92.742	33.33	50.29	1453
170.000	25.858	0.03867	12.1090	216.853	6647.2	9354.4	94.234	32.47	49.60	1433
175.000	25.579	0.03910	11.6850	209.685	6865.0	9601.6	95.666	32.24	49.60	1419
180.000	25.300	0.03953	11.2770	202.840	7082.6	9849.4	97.061	31.82	49.45	1402
185.000	25.023	0.03995	10.8846	196.322	7298.8	10096.3	98.414	31.48	49.31	1387
190.000	24.746	0.04041	10.5070	190.125	7513.8	10342.6	99.728	31.20	49.21	1367
195.000	24.470	0.04087	10.1437	184.242	7727.8	10588.4	101.005	30.96	49.14	1350
200.000	24.195	0.04133	9.7944	178.662	7940.9	10834.0	102.249	30.75	49.10	1333
205.000	23.922	0.04180	9.4584	173.373	8153.3	11079.5	103.461	30.58	49.07	1317
210.000	23.650	0.04228	9.1353	168.360	8364.9	11324.7	104.643	30.44	49.05	1300
215.000	23.379	0.04277	8.8248	163.610	8575.9	11570.0	105.797	30.32	49.04	1284
220.000	23.111	0.04327	8.5262	159.108	8785.2	11815.1	106.924	30.02	48.84	1270
225.000	22.844	0.04375	8.2394	154.841	8994.8	12059.1	108.021	29.87	48.77	1255
230.000	22.578	0.04423	7.9637	150.797	9202.6	12302.9	109.093	29.78	48.75	1241
235.000	22.315	0.04481	7.6989	146.962	9409.8	12546.7	110.141	29.73	48.75	1225
240.000	22.055	0.04534	7.4446	143.326	9616.6	12790.0	111.168	29.72	48.80	1211
245.000	21.796	0.04588	7.2003	139.879	9823.1	13034.7	112.175	29.74	48.85	1197
250.000	21.540	0.04643	6.9657	136.610	10029.4	13279.1	113.163	29.79	48.93	1183
255.000	21.286	0.04698	6.7405	133.512	10235.5	13524.0	114.132	29.37	49.02	1169
260.000	21.035	0.04754	6.5242	130.575	10441.6	13769.3	115.085	29.96	49.12	1155
265.000	20.787	0.04811	6.3166	127.793	10647.7	14015.2	116.022	30.08	49.25	1142
270.000	20.541	0.04868	6.1172	125.159	10853.8	14261.7	116.943	30.22	49.35	1129
275.000	20.298	0.04927	5.9259	122.667	11060.1	14508.7	117.850	30.37	49.47	1115
280.000	20.058	0.04986	5.7422	120.310	11266.5	14756.4	118.742	30.53	49.61	1104
285.000	19.821	0.05045	5.5658	118.084	11473.1	15004.8	119.622	30.71	49.74	1092
290.000	19.586	0.05106	5.3955	115.983	11679.9	15253.8	120.488	30.90	49.89	1080
295.000	19.355	0.05167	5.2340	114.002	11887.0	15503.6	121.342	31.10	50.02	1069
300.000	19.127	0.05228	5.0780	112.137	12094.4	15754.1	122.184	31.31	50.17	1058
310.000	18.681	0.05353	4.7843	108.733	12510.1	16257.2	123.833	31.76	50.46	1035
320.000	18.247	0.05480	4.5135	105.738	12927.1	16763.2	125.440	32.23	50.75	1013
330.000	17.827	0.05609	4.2637	103.117	13345.5	17272.2	127.006	32.73	51.03	1001
340.000	17.421	0.05740	4.0332	100.839	13765.7	17783.9	128.534	33.25	51.32	985
350.000	17.027	0.05873	3.8264	98.873	14187.5	18296.5	130.025	33.78	51.60	970
360.000	16.648	0.06007	3.6238	97.191	14611.1	18815.9	131.483	34.32	51.87	957
370.000	16.282	0.06142	3.4420	95.767	15036.6	19335.9	132.908	34.87	52.14	944
380.000	15.929	0.06278	3.2739	94.573	15464.1	19858.7	134.302	35.43	52.41	934
390.000	15.589	0.06415	3.1181	93.589	15893.7	20384.0	135.666	36.00	52.67	924
400.000	15.262	0.06552	2.9738	92.791	16325.6	20912.0	137.003	36.56	52.93	915
420.000	14.646	0.06826	2.7155	91.578	17190.4	21975.8	133.598	37.70	53.45	900
440.000	14.076	0.07104	2.4923	91.101	18077.3	23050.1	142.097	38.84	53.94	883
460.000	13.550	0.07380	2.2986	90.950	18969.2	24135.1	144.508	39.96	54.51	873
480.000	13.064	0.07654	2.1296	91.141	19872.7	25230.8	146.840	41.07	55.05	873
500.000	12.615	0.07927	1.9815	91.006	20788.5	26337.5	149.098	42.15	55.62	853

Table 15. The Joule-Thomson inversion locus

T,F	T,R	P,PSI	LB/CUFT	T,F	T,R	P,PSI	LB/CUFT
-170.00	289.67	715	21.54	140.00	599.67	7286	15.36
-160.00	299.67	1120	21.30	150.00	609.67	7358	15.18
-150.00	309.67	1503	21.07	160.00	619.67	7424	15.00
-140.00	319.67	1867	20.84	170.00	629.67	7483	14.83
-130.00	329.67	2213	20.61	180.00	639.67	7536	14.65
-120.00	339.67	2542	20.33	190.00	649.67	7583	14.47
-110.00	349.67	2856	20.16	200.00	659.67	7623	14.29
-100.00	359.67	3155	19.94	210.00	669.67	7657	14.11
-90.00	369.67	3440	19.73	220.00	679.67	7685	13.93
-80.00	379.67	3713	19.52	230.00	689.67	7707	13.75
-70.00	389.67	3973	19.31	240.00	699.67	7723	13.57
-60.00	399.67	4222	19.10	250.00	709.67	7734	13.39
-50.00	409.67	4460	18.90	260.00	719.67	7739	13.21
-40.00	419.67	4688	18.70	270.00	729.67	7738	13.03
-30.00	429.67	4905	18.50	280.00	739.67	7731	12.84
-20.00	439.67	5113	18.31	290.00	749.67	7718	12.66
-10.00	449.67	5311	18.11	300.00	759.67	7699	12.47
0.00	459.67	5500	17.92	310.00	769.67	7675	12.29
10.00	469.67	5679	17.73	320.00	779.67	7644	12.10
20.00	479.67	5851	17.55	330.00	789.67	7607	11.91
30.00	489.67	6013	17.36	340.00	799.67	7563	11.72
40.00	499.67	6168	17.17	350.00	809.67	7514	11.52
50.00	509.67	6314	16.99	360.00	819.67	7458	11.33
60.00	519.67	6452	16.81	370.00	829.67	7398	11.13
70.00	529.67	6582	16.62	380.00	839.67	7335	10.93
80.00	539.67	6705	16.44	390.00	849.67	7271	10.74
90.00	549.67	6820	16.25	400.00	859.67	7206	10.55
100.00	559.67	6927	16.08	410.00	869.67	7142	10.36
110.00	569.67	7027	15.90	420.00	879.67	7078	10.18
120.00	579.67	7121	15.72	430.00	889.67	7015	10.00
130.00	589.67	7207	15.54	440.00	899.67	6953	9.83

Table 16. Thermophysical properties of the saturated liquid

For the following table we have used heats of vaporization to make the vapor-liquid transition at temperatures $T \leq T_a \equiv 174.516 \text{ K}$. For higher temperatures we have computed around the critical point as described in section 3.4 of the text with aid from figure 1.

Column headings have the following interpretations--

$$\begin{aligned} DP/DT &\equiv dP/dT, \text{ vapor pressure,} \\ DDL/DT &\equiv d\rho_\ell/dT, \text{ saturated liquid} \\ Q, \text{ VAP} &\equiv \Delta H_{\text{vap}}, \text{ heat of vaporization,} \\ CV &\equiv C_v(\rho, T), \\ CS &\equiv C_\sigma(T), \\ CP &\equiv C_p(\rho, T). \end{aligned}$$

Table 16. Thermophysical properties of the saturated liquid

T DEG F	T DEG R	P PSI	DEN LB/CUFT	V,GAS CUFT/LB	V,LIQ CUFT/LB	DP/DT PSI/R	DOL/DT LB/CUFT/R	Q,VAP BTU/LB
-296.446	163.224	1.703	28.190	63.6831	0.03547	0.1216	-0.04606	233.84
-290.000	169.670	2.648	27.992	42.4544	0.03585	0.1739	-0.04654	231.78
-285.000	174.670	3.641	27.658	31.7071	0.03616	0.2246	-0.04698	230.11
-280.000	179.670	4.911	27.422	24.1032	0.03647	0.2852	-0.04748	228.37
-275.000	184.670	6.511	27.183	18.6191	0.03679	0.3565	-0.04805	226.55
-270.000	189.670	8.495	26.941	14.5936	0.03712	0.4394	-0.04868	224.64
-265.000	194.670	10.925	26.696	11.5909	0.03746	0.5346	-0.04937	222.64
-260.000	199.670	13.863	26.447	9.3177	0.03781	0.6428	-0.05012	220.54
-255.000	204.670	17.375	26.195	7.5731	0.03818	0.7646	-0.05094	218.35
-250.000	209.670	21.532	25.938	6.2174	0.03855	0.9006	-0.05182	216.05
-245.000	214.670	26.406	25.677	5.1514	0.03895	1.0513	-0.05276	213.65
-240.000	219.670	32.070	25.410	4.3041	0.03935	1.2171	-0.05378	211.14
-235.000	224.670	38.603	25.139	3.6238	0.03978	1.3984	-0.05486	208.50
-230.000	229.670	46.080	24.861	3.0725	0.04022	1.5954	-0.05603	205.74
-225.000	234.670	54.584	24.578	2.6217	0.04069	1.8086	-0.05727	202.85
-220.000	239.670	64.194	24.289	2.2500	0.04117	2.0381	-0.05861	199.80
-215.000	244.670	74.993	23.992	1.9412	0.04168	2.2843	-0.06006	196.59
-210.000	249.670	87.065	23.688	1.6828	0.04222	2.5473	-0.06162	193.20
-205.000	254.670	100.494	23.375	1.4650	0.04278	2.8273	-0.06332	189.62
-200.000	259.670	115.366	23.054	1.2803	0.04338	3.1246	-0.06518	185.83
-195.000	264.670	131.769	22.723	1.1226	0.04401	3.4395	-0.06723	181.82
-190.000	269.670	149.791	22.382	0.9873	0.04468	3.7722	-0.06951	177.57
-185.000	274.670	169.522	22.028	0.8706	0.04540	4.1231	-0.07206	173.05
-180.000	279.670	191.053	21.660	0.7693	0.04617	4.4927	-0.07495	168.25
-175.000	284.670	214.480	21.278	0.6810	0.04700	4.8813	-0.07825	163.14
-170.000	289.670	239.900	20.877	0.6037	0.04790	5.2897	-0.08208	157.69
-165.000	294.670	267.411	20.456	0.5356	0.04889	5.7185	-0.08657	151.87
-160.000	299.670	297.121	20.010	0.4754	0.04998	6.1689	-0.09192	145.62
-155.000	304.670	329.138	19.535	0.4218	0.05119	6.6419	-0.09844	138.87
-150.000	309.670	363.580	19.023	0.3738	0.05257	7.1393	-0.10654	131.52
-145.000	314.670	400.575	18.465	0.3306	0.05416	7.6631	-0.11692	123.43
-140.000	319.670	440.261	17.848	0.2912	0.05603	8.2165	-0.13071	114.37
-135.000	324.670	482.797	17.149	0.2548	0.05831	8.8040	-0.15007	104.00
-130.000	329.670	528.369	16.331	0.2205	0.06123	9.4328	-0.17958	91.71
-125.000	334.670	577.215	15.317	0.1871	0.06529	10.1167	-0.23204	76.35
-120.000	339.670	629.684	13.881	0.1520	0.07204	10.8928	-0.37388	54.80
-116.671	342.999	667.003	10.015	0.0998	0.09985	11.6443		0.00

Table 16. Thermophysical properties of the saturated liquid (continued)

T	P	E	H	S	CV	CS	CP	W
DEG F	PSI	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.446	1.703	93.10	93.11	1.01124	0.493	0.786	0.786	5172
-290.000	2.648	97.94	97.95	1.04175	0.491	0.791	0.791	5056
-285.000	3.641	101.76	101.79	1.06481	0.491	0.797	0.797	4961
-280.000	4.911	105.66	105.69	1.08740	0.492	0.804	0.805	4863
-275.000	6.511	109.61	109.66	1.10957	0.493	0.811	0.812	4764
-270.000	8.495	113.63	113.68	1.13135	0.493	0.819	0.820	4665
-265.000	10.925	117.69	117.76	1.15274	0.493	0.825	0.827	4566
-260.000	13.863	121.79	121.89	1.17375	0.492	0.832	0.833	4469
-255.000	17.375	125.94	126.06	1.19439	0.490	0.837	0.840	4372
-250.000	21.532	130.11	130.27	1.21467	0.488	0.843	0.846	4276
-245.000	26.406	134.33	134.52	1.23460	0.485	0.848	0.852	4180
-240.000	32.070	138.57	138.80	1.25419	0.481	0.854	0.858	4084
-235.000	38.603	142.84	143.12	1.27347	0.478	0.860	0.865	3988
-230.000	46.080	147.15	147.49	1.29246	0.475	0.866	0.872	3890
-225.000	54.584	151.49	151.90	1.31118	0.473	0.873	0.881	3791
-220.000	64.194	155.86	156.35	1.32967	0.471	0.881	0.890	3690
-215.000	74.993	160.28	160.86	1.34796	0.469	0.890	0.901	3588
-210.000	87.065	164.75	165.43	1.36606	0.468	0.900	0.914	3483
-205.000	100.494	169.27	170.07	1.38403	0.467	0.912	0.928	3377
-200.000	115.366	173.85	174.77	1.40187	0.467	0.924	0.943	3269
-195.000	131.769	178.49	179.56	1.41961	0.466	0.937	0.960	3159
-190.000	149.791	183.19	184.43	1.43728	0.466	0.951	0.979	3048
-185.000	169.522	187.96	189.39	1.45490	0.465	0.967	1.000	2936
-180.000	191.053	192.81	194.44	1.47248	0.463	0.983	1.023	2822
-175.000	214.480	197.74	199.60	1.49005	0.461	1.000	1.049	2707
-170.000	239.900	202.75	204.88	1.50764	0.457	1.020	1.079	2591
-165.000	267.411	207.86	210.28	1.52527	0.453	1.042	1.115	2472
-160.000	297.121	213.07	215.82	1.54302	0.449	1.068	1.159	2350
-155.000	329.138	218.42	221.54	1.56096	0.445	1.101	1.215	2223
-150.000	363.580	223.94	227.48	1.57922	0.442	1.144	1.289	2088
-145.000	400.575	229.69	233.71	1.59795	0.449	1.208	1.399	1935
-140.000	440.261	235.77	240.34	1.61757	0.452	1.286	1.548	1781
-135.000	482.797	242.26	247.48	1.63833	0.457	1.397	1.776	1617
-130.000	528.369	249.37	255.36	1.66088	0.468	1.568	2.167	1439
-125.000	577.215	257.48	264.45	1.68654	0.488	1.878	2.997	1242
-120.000	629.684	267.78	276.18	1.71933	0.536	2.745	6.085	1007
-116.671	667.003	290.14	302.47	1.79463				0

Table 17. Thermophysical properties along isobars*

The following pages give physical and thermodynamic properties along selected isobars, as computed by methods of section 3 of the text.

The first table is for the triple-point pressure, $P_t = 0.117\,436$ bar (1.70326 psi).

The first line of each table refers to the freezing liquid on the $P(T)$ melting line.

Each table at $P < P_c$ contains a blank line for the transition from saturated liquid to vapor, as seen by the abrupt decrease of density.

Table headings for partial derivatives have the following interpretations--

$$DP/DT \equiv \partial P / \partial T,$$

$$DP/DD \equiv \partial P / \partial \rho.$$

The specific heat interpretations are--

$$CV \equiv C_v(\rho, T),$$

$$CP \equiv C_p(\rho, T).$$

* These tables are extrapolated beyond the range of P - ρ - T data used for adjusting the equation of state ($T \sim 400$ K, $P \sim 350$ bar).

METHANE ISOBAR AT P = 1.703 26 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	CP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-296.446	163.224	28.190	0.01547	166.994	3622.62	93.10	93.11	1.01124	0.493	0.786	5172
-296.446	163.224	0.01573	63.683	0.01056	107.65	306.48	326.57	2.44386	0.373	0.500	818
-290.000	169.670	0.01510	66.245	0.01014	112.06	308.91	329.81	2.46322	0.373	0.500	834
-280.000	179.670	0.01424	70.214	0.00956	118.88	312.68	334.83	2.49181	0.373	0.499	859
-270.000	189.670	0.01348	74.177	0.00905	125.67	316.44	339.84	2.51882	0.373	0.498	883
-260.000	199.670	0.01280	78.135	0.00858	132.45	320.20	344.85	2.54442	0.372	0.498	906
-250.000	209.670	0.01218	82.090	0.00817	139.22	323.96	349.85	2.56875	0.372	0.498	929
-240.000	219.670	0.01162	86.043	0.00779	145.98	327.71	354.85	2.59193	0.372	0.498	951
-230.000	229.670	0.01111	89.992	0.00745	152.73	331.47	359.85	2.61408	0.372	0.497	972
-220.000	239.670	0.01065	93.940	0.00713	159.47	335.22	364.85	2.63527	0.372	0.497	993
-210.000	249.670	0.01022	97.887	0.00684	166.20	338.97	369.84	2.65560	0.372	0.497	1014
-200.000	259.670	0.00982	101.831	0.00658	172.93	342.72	374.84	2.67512	0.372	0.497	1034
-190.000	269.670	0.00945	105.775	0.00633	179.66	346.47	379.83	2.69390	0.372	0.497	1054
-180.000	279.670	0.00911	109.718	0.00610	186.39	350.22	384.83	2.71201	0.373	0.497	1073
-170.000	289.670	0.00880	113.659	0.00589	193.11	353.97	389.82	2.72947	0.373	0.497	1093
-160.000	299.670	0.00850	117.600	0.00569	199.82	357.72	394.81	2.74635	0.373	0.497	1111
-150.000	309.670	0.00823	121.541	0.00551	206.54	361.48	399.81	2.76268	0.373	0.498	1130
-140.000	319.670	0.00797	125.480	0.00534	213.25	365.23	404.81	2.77850	0.373	0.498	1148
-130.000	329.670	0.00773	129.419	0.00517	219.97	368.99	409.81	2.79384	0.374	0.498	1165
-120.000	339.670	0.00750	133.358	0.00502	226.68	372.76	414.82	2.80874	0.374	0.499	1183
-110.000	349.670	0.00728	137.296	0.00488	233.38	376.52	419.83	2.82322	0.375	0.499	1200
-100.000	359.670	0.00708	141.234	0.00474	240.09	380.30	424.84	2.83730	0.376	0.500	1217
-90.000	369.670	0.00689	145.171	0.00461	246.80	384.08	429.86	2.85102	0.376	0.501	1233
-80.000	379.670	0.00671	149.108	0.00449	253.50	387.86	434.89	2.86439	0.377	0.501	1250
-70.000	389.670	0.00653	153.045	0.00437	260.21	391.66	439.93	2.87743	0.378	0.502	1266
-60.000	399.670	0.00637	156.982	0.00426	266.91	395.47	444.98	2.89018	0.379	0.503	1281
-50.000	409.670	0.00621	160.918	0.00416	273.61	399.28	450.04	2.90263	0.380	0.505	1297
-40.000	419.670	0.00607	164.854	0.00406	280.32	403.11	455.11	2.91481	0.382	0.506	1312
-30.000	429.670	0.00592	168.790	0.00396	287.02	406.96	460.19	2.92675	0.383	0.507	1327
-20.000	439.670	0.00579	172.725	0.00387	293.72	410.82	465.29	2.93844	0.385	0.509	1342
-10.000	449.670	0.00566	176.660	0.00379	300.42	414.69	470.41	2.94990	0.387	0.511	1356
0.000	459.670	0.00554	180.596	0.00371	307.12	418.59	475.55	2.96116	0.389	0.513	1370
10.000	469.670	0.00542	184.531	0.00363	313.82	422.50	480.70	2.97221	0.391	0.515	1384
20.000	479.670	0.00531	188.466	0.00355	320.52	426.43	485.88	2.98308	0.393	0.517	1398
30.000	489.670	0.00520	192.400	0.00348	327.22	430.39	491.07	2.99377	0.395	0.519	1411
40.000	499.670	0.00509	196.335	0.00341	333.92	434.37	496.30	3.00429	0.398	0.522	1425
50.000	509.670	0.00499	200.269	0.00334	340.61	438.38	501.54	3.01466	0.400	0.524	1438
60.000	519.670	0.00490	204.204	0.00328	347.31	442.41	506.82	3.02487	0.403	0.527	1451
70.000	529.670	0.00480	208.138	0.00321	354.01	446.47	512.12	3.03494	0.406	0.530	1463
80.000	539.670	0.00472	212.072	0.00316	360.71	450.57	517.45	3.04489	0.409	0.533	1476
100.000	559.670	0.00455	219.940	0.00304	374.10	458.84	528.21	3.06440	0.415	0.539	1500
120.000	579.670	0.00439	227.808	0.00294	387.49	467.25	539.10	3.08346	0.422	0.546	1524
140.000	599.670	0.00424	235.675	0.00284	400.88	475.80	550.13	3.10212	0.430	0.554	1547
160.000	619.670	0.00411	243.542	0.00275	414.28	484.51	561.32	3.12041	0.438	0.562	1569
180.000	639.670	0.00398	251.409	0.00266	427.67	493.37	572.66	3.13838	0.446	0.570	1591
200.000	659.670	0.00386	259.275	0.00258	441.06	502.40	584.17	3.15605	0.454	0.578	1613
220.000	679.670	0.00374	267.141	0.00250	454.45	511.60	595.85	3.17344	0.463	0.587	1634
240.000	699.670	0.00364	275.007	0.00243	467.84	520.97	607.71	3.19059	0.472	0.596	1654
280.000	739.670	0.00344	290.739	0.00230	494.61	540.27	631.97	3.22423	0.490	0.614	1694
320.000	779.670	0.00326	306.469	0.00218	521.39	560.32	656.98	3.25707	0.509	0.633	1733
360.000	819.670	0.00310	322.199	0.00208	548.16	581.12	682.74	3.28923	0.529	0.652	1771
400.000	859.670	0.00296	337.928	0.00198	574.94	602.70	709.28	3.32077	0.548	0.672	1807
440.000	899.670	0.00283	353.657	0.00189	601.71	625.04	736.58	3.35175	0.567	0.691	1843

METHANE ISOBAR AT P = 5.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-296.435	163.235	28.191	0.03547	166.988	3623.06	93.10	93.14	1.01125	0.493	0.786	5172
-290.000	169.670	27.892	0.03585	159.537	3425.01	97.93	97.96	1.04173	0.491	0.791	5056
-280.000	179.670	27.422	0.03647	148.494	3121.46	105.66	105.69	1.08740	0.492	0.805	4863
-279.690	179.980	27.407	0.03649	148.161	3112.16	105.90	105.94	1.08879	0.492	0.805	4857
-279.690	179.980	0.04218	23.709	0.02856	116.68	312.06	334.01	2.35702	0.375	0.506	854
-270.000	189.670	0.03994	25.040	0.02698	123.51	315.73	338.91	2.38350	0.374	0.504	878
-260.000	199.670	0.03787	26.407	0.02555	130.50	319.51	343.96	2.40936	0.374	0.503	902
-250.000	209.670	0.03601	27.770	0.02427	137.45	323.28	348.99	2.43391	0.373	0.502	925
-240.000	219.670	0.03433	29.130	0.02311	144.36	327.04	354.01	2.45726	0.373	0.501	947
-230.000	229.670	0.03280	30.487	0.02207	151.25	330.80	359.03	2.47955	0.373	0.500	969
-220.000	239.670	0.03140	31.842	0.02111	158.11	334.56	364.04	2.50086	0.373	0.500	991
-210.000	249.670	0.03012	33.195	0.02024	164.95	338.31	369.05	2.52128	0.373	0.499	1012
-200.000	259.670	0.02895	34.547	0.01944	171.78	342.06	374.05	2.54089	0.373	0.499	1032
-190.000	269.670	0.02786	35.897	0.01870	178.59	345.82	379.05	2.55974	0.373	0.499	1052
-180.000	279.670	0.02685	37.246	0.01802	185.39	349.56	384.05	2.57791	0.373	0.499	1072
-170.000	289.670	0.02591	38.594	0.01739	192.18	353.31	389.05	2.59543	0.373	0.499	1091
-160.000	299.670	0.02504	39.941	0.01680	198.96	357.06	394.05	2.61235	0.373	0.499	1110
-150.000	309.670	0.02422	41.288	0.01625	205.73	360.82	399.04	2.62872	0.373	0.499	1128
-140.000	319.670	0.02346	42.634	0.01573	212.49	364.57	404.04	2.64458	0.374	0.499	1147
-130.000	329.670	0.02274	43.979	0.01525	219.25	368.33	409.04	2.65995	0.374	0.499	1164
-120.000	339.670	0.02206	45.324	0.01479	226.01	372.08	414.05	2.67488	0.375	0.500	1182
-110.000	349.670	0.02143	46.668	0.01436	232.76	375.85	419.06	2.68938	0.375	0.500	1199
-100.000	359.670	0.02083	48.012	0.01396	239.50	379.62	424.07	2.70349	0.376	0.501	1216
-90.000	369.670	0.02026	49.355	0.01358	246.24	383.39	429.09	2.71723	0.376	0.501	1233
-80.000	379.670	0.01972	50.698	0.01322	252.98	387.18	434.12	2.73062	0.377	0.502	1249
-70.000	389.670	0.01922	52.041	0.01288	259.72	390.97	439.15	2.74368	0.378	0.503	1265
-60.000	399.670	0.01873	53.384	0.01255	266.45	394.77	444.19	2.75644	0.379	0.504	1281
-50.000	409.670	0.01827	54.726	0.01224	273.18	398.56	449.25	2.76891	0.381	0.505	1296
-40.000	419.670	0.01784	56.068	0.01195	279.90	402.41	454.32	2.78110	0.382	0.506	1311
-30.000	429.670	0.01742	57.410	0.01167	286.63	406.24	459.40	2.79305	0.383	0.508	1326
-20.000	439.670	0.01702	58.752	0.01140	293.35	410.10	464.49	2.80475	0.385	0.509	1341
-10.000	449.670	0.01664	60.093	0.01115	300.07	413.97	469.61	2.81623	0.387	0.511	1356
0.000	459.670	0.01628	61.434	0.01090	306.79	417.86	474.74	2.82749	0.389	0.513	1370
10.000	469.670	0.01593	62.776	0.01067	313.50	421.77	479.89	2.83856	0.391	0.515	1384
20.000	479.670	0.01560	64.117	0.01045	320.22	425.70	485.06	2.84943	0.393	0.517	1398
30.000	489.670	0.01528	65.457	0.01023	326.93	429.65	490.25	2.86013	0.395	0.520	1411
40.000	499.670	0.01497	66.798	0.01003	333.65	433.62	495.47	2.87066	0.398	0.522	1424
50.000	509.670	0.01468	68.139	0.00983	340.36	437.62	500.71	2.88103	0.400	0.525	1438
60.000	519.670	0.01439	69.479	0.00964	347.07	441.65	505.98	2.89125	0.403	0.527	1450
70.000	529.670	0.01412	70.820	0.00945	353.78	445.71	511.28	2.90133	0.406	0.530	1463
80.000	539.670	0.01386	72.160	0.00928	360.49	449.80	516.61	2.91127	0.409	0.533	1476
100.000	559.670	0.01336	74.841	0.00895	373.90	458.06	527.35	2.93080	0.416	0.540	1500
120.000	579.670	0.01290	77.521	0.00864	387.31	466.46	538.23	2.94987	0.422	0.547	1524
140.000	599.670	0.01247	80.201	0.00835	400.72	475.00	549.26	2.96853	0.430	0.554	1547
160.000	619.670	0.01207	82.880	0.00808	414.12	483.70	560.43	2.98684	0.438	0.562	1569
180.000	639.670	0.01169	85.560	0.00782	427.53	492.55	571.77	3.00481	0.446	0.570	1591
200.000	659.670	0.01133	88.239	0.00759	440.93	501.57	583.26	3.02248	0.454	0.578	1613
220.000	679.670	0.01100	90.918	0.00736	454.33	510.76	594.93	3.03989	0.463	0.587	1634
240.000	699.670	0.01068	93.597	0.00715	467.73	520.12	606.78	3.05704	0.472	0.596	1654
280.000	739.670	0.01011	98.954	0.00676	494.52	539.40	631.02	3.09068	0.490	0.614	1694
320.000	779.670	0.00959	104.311	0.00642	521.31	559.43	656.01	3.12354	0.509	0.633	1733
360.000	819.670	0.00912	109.667	0.00610	548.09	580.22	681.76	3.15570	0.529	0.653	1771
400.000	859.670	0.00869	115.023	0.00582	574.87	601.78	708.27	3.18725	0.548	0.672	1807
440.000	899.670	0.00831	120.379	0.00556	601.65	624.10	735.55	3.21823	0.567	0.691	1843

METHANE ISOBAR AT P = 10.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/CUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.420	163.250	28.191	0.03547	166.979	3623.73	93.11	93.17	1.01127	0.493	0.786	5172
-290.000	169.670	27.894	0.03585	159.548	3426.22	97.92	97.99	1.04167	0.491	0.791	5057
-280.000	179.670	27.423	0.03647	148.508	3122.77	105.65	105.72	1.08734	0.492	0.805	4863
-270.000	189.670	26.942	0.03712	138.073	2827.73	113.62	113.69	1.13133	0.493	0.820	4665
-266.790	192.880	26.784	0.03734	134.842	2735.26	116.23	116.30	1.14512	0.493	0.824	4601
-266.790	192.880	0.07956	12.569	0.05433	122.29	316.28	339.56	2.30317	0.377	0.513	878
-260.000	199.670	0.07666	13.045	0.05223	127.27	318.88	343.04	2.32088	0.376	0.511	895
-250.000	209.670	0.07278	13.741	0.04945	134.52	322.70	348.14	2.34579	0.375	0.509	919
-240.000	219.670	0.06929	14.433	0.04698	141.69	326.50	353.22	2.36944	0.375	0.507	942
-230.000	229.670	0.06613	15.122	0.04476	148.79	330.29	358.29	2.39197	0.374	0.505	965
-220.000	239.670	0.06326	15.809	0.04276	155.85	334.07	363.34	2.41348	0.374	0.504	987
-210.000	249.670	0.06063	16.494	0.04094	162.86	337.84	368.38	2.43406	0.374	0.503	1008
-200.000	259.670	0.05822	17.177	0.03927	169.83	341.61	373.42	2.45381	0.374	0.502	1029
-190.000	269.670	0.05600	17.858	0.03775	176.78	345.37	378.44	2.47278	0.374	0.502	1049
-180.000	279.670	0.05394	18.539	0.03634	183.70	349.13	383.46	2.49105	0.373	0.501	1069
-170.000	289.670	0.05203	19.218	0.03503	190.60	352.89	388.48	2.50866	0.374	0.501	1088
-160.000	299.670	0.05026	19.897	0.03382	197.49	356.65	393.50	2.52566	0.374	0.501	1108
-150.000	309.670	0.04860	20.574	0.03269	204.35	360.41	398.51	2.54210	0.374	0.501	1126
-140.000	319.670	0.04706	21.251	0.03164	211.20	364.17	403.52	2.55802	0.374	0.501	1145
-130.000	329.670	0.04561	21.927	0.03066	218.04	367.93	408.54	2.57344	0.374	0.501	1163
-120.000	339.670	0.04424	22.603	0.02973	224.87	371.70	413.55	2.58842	0.375	0.501	1180
-110.000	349.670	0.04296	23.278	0.02886	231.68	375.47	418.57	2.60296	0.375	0.501	1198
-100.000	359.670	0.04175	23.953	0.02804	238.49	379.24	423.59	2.61711	0.376	0.502	1215
-90.000	369.670	0.04061	24.627	0.02727	245.29	383.02	428.62	2.63088	0.377	0.502	1231
-80.000	379.670	0.03952	25.301	0.02653	252.08	386.80	433.65	2.64430	0.377	0.503	1248
-70.000	389.670	0.03850	25.975	0.02584	258.87	390.60	438.70	2.65739	0.378	0.504	1264
-60.000	399.670	0.03753	26.649	0.02518	265.64	394.40	443.75	2.67017	0.379	0.505	1280
-50.000	409.670	0.03660	27.322	0.02456	272.42	398.21	448.81	2.68267	0.381	0.506	1295
-40.000	419.670	0.03572	27.995	0.02397	279.19	402.04	453.88	2.69488	0.382	0.507	1311
-30.000	429.670	0.03488	28.667	0.02340	285.95	405.88	458.96	2.70685	0.383	0.509	1326
-20.000	439.670	0.03403	29.340	0.02286	292.71	409.74	464.06	2.71857	0.385	0.510	1340
-10.000	449.670	0.03332	30.012	0.02235	299.47	413.61	469.18	2.73006	0.387	0.512	1355
0.000	459.670	0.03259	30.684	0.02186	306.22	417.50	474.31	2.74134	0.389	0.514	1369
10.000	469.670	0.03189	31.356	0.02139	312.97	421.40	479.47	2.75242	0.391	0.516	1383
20.000	479.670	0.03122	32.028	0.02094	319.71	425.33	484.64	2.76331	0.393	0.518	1397
30.000	489.670	0.03059	32.699	0.02050	326.45	429.29	489.84	2.77402	0.395	0.520	1411
40.000	499.670	0.02997	33.371	0.02009	333.19	433.26	495.06	2.78456	0.398	0.523	1424
50.000	509.670	0.02938	34.042	0.01969	339.93	437.26	500.30	2.79494	0.400	0.525	1437
60.000	519.670	0.02881	34.713	0.01931	346.67	441.29	505.57	2.80517	0.403	0.528	1450
70.000	529.670	0.02826	35.385	0.01894	353.40	445.35	510.87	2.81526	0.406	0.531	1463
80.000	539.670	0.02773	36.056	0.01859	360.13	449.43	516.20	2.82521	0.409	0.534	1475
100.000	559.670	0.02674	37.398	0.01792	373.59	457.70	526.95	2.84475	0.416	0.540	1500
120.000	579.670	0.02581	38.739	0.01730	387.03	466.09	537.83	2.86384	0.423	0.547	1524
140.000	599.670	0.02495	40.080	0.01672	400.48	474.63	548.85	2.88251	0.430	0.554	1547
160.000	619.670	0.02414	41.421	0.01617	413.92	483.32	560.03	2.90083	0.438	0.562	1569
180.000	639.670	0.02339	42.762	0.01567	427.35	492.17	571.36	2.91881	0.446	0.570	1591
200.000	659.670	0.02267	44.103	0.01519	440.78	501.19	582.86	2.93649	0.454	0.579	1613
220.000	679.670	0.02201	45.443	0.01474	454.20	510.38	594.53	2.95390	0.463	0.587	1634
240.000	699.670	0.02138	46.783	0.01432	467.62	519.74	606.37	2.97107	0.472	0.596	1654
280.000	739.670	0.02022	49.463	0.01354	494.45	539.02	630.61	3.00472	0.490	0.615	1694
320.000	779.670	0.01918	52.142	0.01284	521.28	559.04	655.59	3.03758	0.509	0.634	1733
360.000	819.670	0.01824	54.821	0.01221	548.09	579.82	681.34	3.06976	0.529	0.653	1771
400.000	859.670	0.01739	57.500	0.01164	574.90	601.37	707.85	3.10131	0.548	0.672	1807
440.000	899.670	0.01662	60.178	0.01112	601.69	623.69	735.12	3.13230	0.567	0.691	1843

METHANE ISOBAR AT P = 15.0 PSI

T	T	DEN	VDL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.404	163.266	28.192	0.03547	166.970	3624.40	93.11	93.21	1.01130	0.493	0.786	5172
-290.000	169.670	27.895	0.03585	159.560	3427.42	97.91	98.01	1.04162	0.491	0.791	5057
-280.000	179.670	27.425	0.03646	148.523	3124.08	105.64	105.74	1.08728	0.492	0.805	4864
-270.000	189.670	26.944	0.03711	138.091	2829.13	113.61	113.71	1.13127	0.493	0.820	4666
-260.000	199.670	26.448	0.03781	128.201	2545.13	121.79	121.89	1.17373	0.492	0.833	4469
-258.284	201.386	26.361	0.03793	126.554	2497.60	123.21	123.31	1.18088	0.491	0.836	4435
-258.284	201.386	0.11537	8.667	0.07938	125.21	318.97	343.05	2.27230	0.379	0.520	892
-250.000	209.670	0.11037	9.060	0.07566	131.48	322.18	347.34	2.29318	0.378	0.516	913
-240.000	219.670	0.10492	9.531	0.07167	138.92	326.02	352.49	2.31716	0.376	0.513	937
-230.000	229.670	0.10002	9.998	0.06814	146.26	329.84	357.61	2.33995	0.376	0.511	960
-220.000	239.670	0.09558	10.462	0.06498	153.51	333.65	362.71	2.36167	0.375	0.509	982
-210.000	249.670	0.09154	10.925	0.06212	160.70	337.45	367.80	2.38243	0.375	0.507	1004
-200.000	259.670	0.08783	11.385	0.05952	167.83	341.24	372.86	2.40233	0.374	0.506	1025
-190.000	269.670	0.08443	11.844	0.05715	174.92	345.02	377.92	2.42143	0.374	0.505	1046
-180.000	279.670	0.08129	12.302	0.05496	181.97	348.80	382.97	2.43980	0.374	0.504	1066
-170.000	289.670	0.07838	12.759	0.05295	188.98	352.58	388.01	2.45751	0.374	0.504	1086
-160.000	299.670	0.07568	13.214	0.05109	195.96	356.35	393.05	2.47459	0.374	0.503	1105
-150.000	309.670	0.07316	13.669	0.04935	202.92	360.12	398.09	2.49110	0.374	0.503	1124
-140.000	319.670	0.07081	14.123	0.04774	209.86	363.89	403.12	2.50708	0.374	0.503	1142
-130.000	329.670	0.06860	14.576	0.04623	216.77	367.66	408.15	2.52256	0.375	0.503	1161
-120.000	339.670	0.06654	15.029	0.04482	223.67	371.43	413.18	2.53758	0.375	0.503	1178
-110.000	349.670	0.06459	15.482	0.04349	230.55	375.21	418.21	2.55217	0.376	0.503	1196
-100.000	359.670	0.06276	15.934	0.04224	237.42	378.98	423.24	2.56636	0.376	0.503	1213
-90.000	369.670	0.06103	16.385	0.04106	244.28	382.77	428.28	2.58016	0.377	0.504	1230
-80.000	379.670	0.05940	16.836	0.03995	251.13	386.56	433.32	2.59362	0.378	0.504	1246
-70.000	389.670	0.05785	17.287	0.03890	257.96	390.36	438.37	2.60674	0.379	0.505	1263
-60.000	399.670	0.05638	17.737	0.03790	264.79	394.17	443.43	2.61955	0.380	0.506	1279
-50.000	409.670	0.05498	18.188	0.03695	271.61	397.98	448.50	2.63206	0.381	0.507	1294
-40.000	419.670	0.05365	18.638	0.03605	278.42	401.81	453.58	2.64430	0.382	0.508	1310
-30.000	429.670	0.05239	19.087	0.03520	285.22	405.66	458.67	2.65629	0.384	0.510	1325
-20.000	439.670	0.05119	19.537	0.03438	292.02	409.51	463.78	2.66803	0.385	0.511	1340
-10.000	449.670	0.05003	19.986	0.03360	298.81	413.30	468.90	2.67954	0.387	0.513	1354
0.000	459.670	0.04894	20.435	0.03286	305.59	417.28	474.04	2.69083	0.389	0.514	1369
10.000	469.670	0.04788	20.884	0.03215	312.37	421.19	479.20	2.70192	0.391	0.516	1383
20.000	479.670	0.04688	21.333	0.03147	319.15	425.17	484.38	2.71283	0.393	0.519	1397
30.000	489.670	0.04591	21.782	0.03082	325.92	429.08	489.58	2.72355	0.395	0.521	1410
40.000	499.670	0.04498	22.230	0.03019	332.69	433.05	494.80	2.73410	0.398	0.523	1424
50.000	509.670	0.04409	22.679	0.02959	339.45	437.06	500.05	2.74449	0.401	0.526	1437
60.000	519.670	0.04324	23.127	0.02901	346.21	441.09	505.32	2.75473	0.403	0.528	1450
70.000	529.670	0.04242	23.575	0.02846	352.97	445.14	510.62	2.76483	0.406	0.531	1463
80.000	539.670	0.04163	24.023	0.02793	359.72	449.23	515.96	2.77480	0.409	0.534	1475
100.000	559.670	0.04013	24.919	0.02692	373.22	457.50	526.71	2.79435	0.416	0.541	1500
120.000	579.670	0.03874	25.815	0.02598	386.71	465.96	537.60	2.81345	0.423	0.547	1523
140.000	599.670	0.03744	26.710	0.02511	400.19	474.44	548.63	2.83214	0.430	0.555	1547
160.000	619.670	0.03623	27.605	0.02429	413.66	483.13	559.80	2.85047	0.438	0.562	1569
180.000	639.670	0.03509	28.499	0.02352	427.12	491.98	571.14	2.86846	0.446	0.571	1591
200.000	659.670	0.03402	29.394	0.02280	440.58	501.00	582.64	2.88615	0.454	0.579	1613
220.000	679.670	0.03302	30.288	0.02213	454.03	510.18	594.31	2.90357	0.463	0.588	1634
240.000	699.670	0.03207	31.182	0.02149	467.47	519.55	606.16	2.92074	0.472	0.597	1654
280.000	739.670	0.03033	32.970	0.02032	494.35	538.82	630.40	2.95441	0.491	0.615	1694
320.000	779.670	0.02877	34.758	0.01928	521.21	558.85	655.39	2.98728	0.509	0.634	1733
360.000	819.670	0.02736	36.545	0.01833	548.05	579.63	681.14	3.01946	0.529	0.653	1771
400.000	859.670	0.02609	38.331	0.01747	574.89	601.18	707.65	3.05103	0.548	0.672	1808
440.000	899.670	0.02493	40.117	0.01669	601.71	623.50	734.93	3.08202	0.567	0.691	1843

METHANE ISOBAR AT P = 20.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/CUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.388	163.282	28.193	0.03547	166.960	3625.07	93.11	93.24	1.01132	0.493	0.786	5173
-290.000	169.670	27.897	0.03585	159.571	3428.63	97.90	98.04	1.04156	0.491	0.791	5058
-280.000	179.670	27.427	0.03646	148.537	3125.39	105.63	105.76	1.08722	0.492	0.805	4865
-270.000	189.670	26.945	0.03711	138.108	2830.54	113.60	113.74	1.13120	0.494	0.820	4666
-260.000	199.670	26.450	0.03781	128.221	2546.61	121.77	121.91	1.17367	0.492	0.833	4470
-251.750	207.920	26.029	0.03842	120.426	2321.65	128.65	128.79	1.20762	0.489	0.844	4310
-251.750	207.920	0.15028	6.654	0.10412	126.98	320.97	345.61	2.25064	0.380	0.526	902
-250.000	209.670	0.14886	6.718	0.10302	128.36	321.65	346.53	2.25504	0.380	0.525	906
-240.000	219.670	0.14128	7.078	0.09729	136.10	325.55	351.76	2.27938	0.378	0.520	931
-230.000	229.670	0.13451	7.434	0.09227	143.69	329.41	356.94	2.30245	0.377	0.516	955
-220.000	239.670	0.12840	7.788	0.08781	151.15	333.25	362.10	2.32440	0.376	0.514	978
-210.000	249.670	0.12286	8.139	0.08381	158.52	337.08	367.22	2.34535	0.376	0.511	1000
-200.000	259.670	0.11780	8.489	0.08020	165.82	340.89	372.33	2.36540	0.375	0.510	1021
-190.000	269.670	0.11317	8.836	0.07692	173.04	344.70	377.42	2.38464	0.375	0.508	1042
-180.000	279.670	0.10890	9.183	0.07391	180.22	348.49	382.50	2.40312	0.375	0.507	1063
-170.000	289.670	0.10495	9.528	0.07115	187.34	352.28	387.57	2.42092	0.375	0.506	1083
-160.000	299.670	0.10129	9.872	0.06859	194.43	356.07	392.63	2.43809	0.375	0.505	1103
-150.000	309.670	0.09789	10.216	0.06623	201.48	359.85	397.68	2.45468	0.375	0.505	1122
-140.000	319.670	0.09471	10.559	0.06403	208.50	363.63	402.73	2.47072	0.375	0.505	1140
-130.000	329.670	0.09174	10.901	0.06198	215.49	367.41	407.78	2.48626	0.375	0.504	1159
-120.000	339.670	0.08895	11.242	0.06006	222.47	371.19	412.83	2.50133	0.375	0.504	1177
-110.000	349.670	0.08633	11.583	0.05826	229.42	374.98	417.87	2.51596	0.376	0.504	1194
-100.000	359.670	0.08387	11.924	0.05657	236.35	378.76	422.92	2.53019	0.376	0.505	1212
-90.000	369.670	0.08154	12.264	0.05497	243.26	382.55	427.97	2.54403	0.377	0.505	1229
-80.000	379.670	0.07934	12.603	0.05347	250.16	386.35	433.03	2.55752	0.378	0.506	1245
-70.000	389.670	0.07726	12.943	0.05205	257.05	390.15	438.09	2.57067	0.379	0.506	1262
-60.000	399.670	0.07529	13.282	0.05070	263.92	393.97	443.16	2.58350	0.380	0.507	1278
-50.000	409.670	0.07342	13.620	0.04943	270.78	397.79	448.23	2.59604	0.381	0.508	1293
-40.000	419.670	0.07164	13.959	0.04821	277.63	401.62	453.32	2.60831	0.382	0.509	1309
-30.000	429.670	0.06994	14.297	0.04706	284.48	405.47	458.42	2.62031	0.384	0.510	1324
-20.000	439.670	0.06833	14.635	0.04596	291.31	409.33	463.53	2.63207	0.385	0.512	1339
-10.000	449.670	0.06679	14.973	0.04492	298.14	413.21	468.66	2.64360	0.387	0.513	1354
0.000	459.670	0.06531	15.311	0.04392	304.96	417.11	473.81	2.65491	0.389	0.515	1368
10.000	469.670	0.06391	15.648	0.04296	311.77	421.02	478.97	2.66602	0.391	0.517	1382
20.000	479.670	0.06256	15.986	0.04205	318.57	424.95	484.16	2.67693	0.393	0.519	1396
30.000	489.670	0.06126	16.323	0.04117	325.37	428.91	489.36	2.68767	0.396	0.521	1410
40.000	499.670	0.06002	16.660	0.04033	332.17	432.89	494.59	2.69823	0.398	0.524	1423
50.000	509.670	0.05883	16.997	0.03953	338.96	436.90	499.84	2.70864	0.401	0.526	1436
60.000	519.670	0.05769	17.334	0.03875	345.74	440.93	505.12	2.71889	0.403	0.529	1449
70.000	529.670	0.05659	17.670	0.03801	352.52	444.99	510.43	2.72900	0.406	0.532	1462
80.000	539.670	0.05553	18.007	0.03729	359.30	449.07	515.76	2.73897	0.409	0.535	1475
100.000	559.670	0.05353	18.680	0.03594	372.84	457.34	526.53	2.75854	0.416	0.541	1499
120.000	579.670	0.05167	19.352	0.03468	386.36	465.75	537.42	2.77765	0.423	0.548	1523
140.000	599.670	0.04994	20.025	0.03351	399.88	474.29	548.45	2.79636	0.430	0.555	1546
160.000	619.670	0.04832	20.697	0.03242	413.38	482.99	559.64	2.81469	0.438	0.563	1569
180.000	639.670	0.04680	21.368	0.03140	426.87	491.84	570.98	2.83270	0.446	0.571	1591
200.000	659.670	0.04537	22.040	0.03043	440.36	500.86	582.48	2.85040	0.454	0.579	1613
220.000	679.670	0.04403	22.711	0.02953	453.83	510.05	594.16	2.86783	0.463	0.588	1634
240.000	699.670	0.04277	23.383	0.02868	467.30	519.41	606.01	2.88501	0.472	0.597	1654
280.000	739.670	0.04045	24.724	0.02712	494.22	538.69	630.26	2.91869	0.491	0.615	1694
320.000	779.670	0.03836	26.066	0.02572	521.12	558.72	655.25	2.95157	0.509	0.634	1733
360.000	819.670	0.03649	27.407	0.02445	548.00	579.50	681.00	2.98376	0.529	0.653	1771
400.000	859.670	0.03479	28.747	0.02331	574.86	601.05	707.52	3.01533	0.548	0.672	1808
440.000	899.670	0.03324	30.087	0.02227	601.71	623.37	734.80	3.04633	0.567	0.691	1844

METHANE ISOBAR AT P = 25.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-296.372	163.298	28.193	0.03547	166.951	3625.74	93.11	93.28	1.01134	0.493	0.786	5173
-290.000	169.670	27.898	0.03584	159.583	3429.83	97.89	98.06	1.04151	0.491	0.791	5058
-280.000	179.670	27.428	0.03646	148.552	3126.70	105.62	105.79	1.08716	0.492	0.804	4865
-270.000	189.670	26.947	0.03711	138.125	2831.94	113.59	113.76	1.13114	0.494	0.819	4667
-260.000	199.670	26.452	0.03780	128.241	2548.09	121.76	121.94	1.17360	0.492	0.833	4471
-250.000	209.670	25.939	0.03855	118.835	2276.63	130.10	130.28	1.21462	0.488	0.846	4277
-246.365	213.305	25.748	0.03884	115.521	2181.19	133.17	133.35	1.22919	0.486	0.850	4206
-246.365	213.305	0.18457	5.418	0.12870	128.11	322.56	347.64	2.23393	0.382	0.532	909
-240.000	219.670	0.17841	5.605	0.12390	133.22	325.06	351.01	2.24951	0.381	0.528	925
-230.000	229.670	0.16963	5.895	0.11718	141.07	328.97	356.26	2.27289	0.379	0.523	950
-220.000	239.670	0.16175	6.183	0.11129	148.76	332.85	361.47	2.29508	0.378	0.519	973
-210.000	249.670	0.15462	6.467	0.10605	156.33	336.71	366.65	2.31623	0.377	0.516	996
-200.000	259.670	0.14814	6.750	0.10134	163.79	340.55	371.80	2.33645	0.376	0.514	1018
-190.000	269.670	0.14222	7.031	0.09708	171.16	344.37	376.92	2.35582	0.376	0.512	1039
-180.000	279.670	0.13678	7.311	0.09319	178.46	348.19	382.03	2.37442	0.375	0.510	1060
-170.000	289.670	0.13176	7.590	0.08963	185.70	352.00	387.13	2.39232	0.375	0.509	1080
-160.000	299.670	0.12711	7.867	0.08636	192.89	355.80	392.22	2.40958	0.375	0.508	1100
-150.000	309.670	0.12279	8.144	0.08333	200.04	359.59	397.29	2.42623	0.375	0.507	1119
-140.000	319.670	0.11877	8.420	0.08051	207.15	363.38	402.36	2.44234	0.375	0.507	1138
-130.000	329.670	0.11501	8.695	0.07790	214.22	367.18	407.43	2.45794	0.375	0.506	1157
-120.000	339.670	0.11149	8.970	0.07545	221.26	370.97	412.49	2.47306	0.376	0.506	1175
-110.000	349.670	0.10818	9.244	0.07316	228.28	374.76	417.55	2.48774	0.376	0.506	1193
-100.000	359.670	0.10517	9.517	0.07102	235.27	378.55	422.61	2.50201	0.377	0.506	1210
-90.000	369.670	0.10214	9.791	0.06900	242.24	382.35	427.68	2.51589	0.377	0.506	1227
-80.000	379.670	0.09937	10.063	0.06709	249.20	386.16	432.74	2.52941	0.378	0.507	1244
-70.000	389.670	0.09675	10.336	0.06529	256.13	389.97	437.81	2.54259	0.379	0.507	1260
-60.000	399.670	0.09427	10.608	0.06359	263.05	393.78	442.89	2.55545	0.380	0.508	1276
-50.000	409.670	0.09191	10.880	0.06198	269.96	397.61	447.98	2.56802	0.381	0.509	1292
-40.000	419.670	0.08967	11.152	0.06045	276.85	401.45	453.08	2.58030	0.382	0.510	1308
-30.000	429.670	0.08754	11.423	0.05899	283.73	405.30	458.18	2.59233	0.384	0.511	1323
-20.000	439.670	0.08551	11.694	0.05760	290.60	409.17	463.30	2.60411	0.386	0.513	1338
-10.000	449.670	0.08358	11.965	0.05628	297.46	413.05	468.44	2.61565	0.387	0.514	1353
0.000	459.670	0.08173	12.236	0.05502	304.32	416.95	473.59	2.62698	0.389	0.516	1367
10.000	469.670	0.07996	12.507	0.05382	311.16	420.87	478.76	2.63810	0.391	0.518	1381
20.000	479.670	0.07827	12.777	0.05267	317.99	424.80	483.95	2.64903	0.393	0.520	1395
30.000	489.670	0.07664	13.047	0.05157	324.82	428.76	489.16	2.65978	0.396	0.522	1409
40.000	499.670	0.07509	13.317	0.05051	331.64	432.75	494.40	2.67036	0.398	0.524	1423
50.000	509.670	0.07360	13.588	0.04950	338.46	436.75	499.66	2.68077	0.401	0.527	1436
60.000	519.670	0.07216	13.857	0.04852	345.26	440.79	504.94	2.69103	0.403	0.529	1449
70.000	529.670	0.07078	14.127	0.04759	352.07	444.85	510.25	2.70115	0.406	0.532	1462
80.000	539.670	0.06946	14.397	0.04669	358.86	448.94	515.59	2.71114	0.409	0.535	1474
100.000	559.670	0.06695	14.936	0.04499	372.45	457.22	526.36	2.73072	0.416	0.541	1499
120.000	579.670	0.06462	15.475	0.04341	386.01	465.62	537.26	2.74985	0.423	0.548	1523
140.000	599.670	0.06245	16.014	0.04194	399.56	474.17	548.30	2.76857	0.430	0.555	1546
160.000	619.670	0.06042	16.552	0.04057	413.09	482.87	559.49	2.78692	0.438	0.563	1569
180.000	639.670	0.05851	17.090	0.03928	426.62	491.72	570.84	2.80493	0.446	0.571	1591
200.000	659.670	0.05673	17.628	0.03808	440.13	500.74	582.35	2.82264	0.454	0.580	1613
220.000	679.670	0.05505	18.165	0.03695	453.63	509.94	594.03	2.84008	0.463	0.588	1634
240.000	699.670	0.05347	18.702	0.03588	467.12	519.30	605.89	2.85726	0.472	0.597	1654
280.000	739.670	0.05056	19.777	0.03392	494.08	538.59	630.14	2.89096	0.491	0.615	1694
320.000	779.670	0.04796	20.851	0.03216	521.02	558.61	655.14	2.92386	0.510	0.634	1733
360.000	819.670	0.04561	21.924	0.03058	547.93	579.40	680.89	2.95606	0.529	0.653	1771
400.000	859.670	0.04348	22.997	0.02915	574.82	600.96	707.42	2.98764	0.548	0.672	1808
440.000	899.670	0.04155	24.070	0.02785	601.70	623.27	734.70	3.01864	0.567	0.691	1844

METHANE ISOBAR AT P = 30.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	H FT/S
-296.356	163.314	28.194	0.03547	166.942	3626.41	93.12	93.31	1.01136	0.493	0.786	5173
-290.000	169.670	27.900	0.03584	159.594	3431.03	97.88	98.08	1.04145	0.491	0.791	5059
-280.000	179.670	27.430	0.03646	148.566	3128.01	105.61	105.81	1.08711	0.492	0.804	4866
-270.000	189.670	26.949	0.03711	138.142	2833.34	113.57	113.78	1.13108	0.494	0.819	4668
-260.000	199.670	26.454	0.03780	128.262	2549.58	121.75	121.96	1.17353	0.492	0.833	4471
-250.000	209.670	25.942	0.03855	118.858	2278.19	130.09	130.30	1.21455	0.488	0.845	4278
-241.744	217.926	25.504	0.03921	111.408	2063.97	137.08	137.30	1.24740	0.483	0.856	4118
-241.744	217.926	0.21842	4.578	0.15324	128.82	323.87	349.31	2.22032	0.383	0.538	915
-240.000	219.670	0.21637	4.622	0.15159	130.27	324.57	350.24	2.22460	0.383	0.536	919
-230.000	229.670	0.20541	4.868	0.14296	138.41	328.53	355.57	2.24831	0.381	0.530	944
-220.000	239.670	0.19563	5.112	0.13546	146.34	332.44	360.84	2.27077	0.379	0.525	969
-210.000	249.670	0.18684	5.352	0.12885	154.11	336.33	366.07	2.29213	0.378	0.521	992
-200.000	259.670	0.17886	5.591	0.12295	161.74	340.20	371.26	2.31252	0.377	0.518	1014
-190.000	269.670	0.17160	5.828	0.11764	169.26	344.05	376.42	2.33204	0.377	0.515	1036
-180.000	279.670	0.16494	6.063	0.11282	176.70	347.89	381.57	2.35076	0.376	0.513	1057
-170.000	289.670	0.15880	6.297	0.10842	184.06	351.71	386.69	2.36876	0.376	0.512	1077
-160.000	299.670	0.15314	6.530	0.10438	191.36	355.53	391.80	2.38610	0.376	0.510	1098
-150.000	309.670	0.14788	6.762	0.10065	198.60	359.34	396.90	2.40284	0.376	0.509	1117
-140.000	319.670	0.14293	6.994	0.09720	205.79	363.14	401.99	2.41902	0.376	0.509	1136
-130.000	329.670	0.13842	7.224	0.09400	212.95	366.94	407.08	2.43467	0.376	0.508	1155
-120.000	339.670	0.13415	7.455	0.09101	220.06	370.75	412.16	2.44985	0.376	0.508	1173
-110.000	349.670	0.13014	7.684	0.08821	227.15	374.55	417.23	2.46457	0.376	0.507	1191
-100.000	359.670	0.12637	7.913	0.08559	234.20	378.35	422.31	2.47888	0.377	0.507	1209
-90.000	369.670	0.12282	8.142	0.08313	241.23	382.16	427.38	2.49280	0.378	0.508	1226
-80.000	379.670	0.11947	8.370	0.08082	248.24	385.97	432.46	2.50635	0.378	0.508	1243
-70.000	389.670	0.11631	8.598	0.07863	255.22	389.78	437.55	2.51956	0.379	0.508	1259
-60.000	399.670	0.11331	8.826	0.07656	262.19	393.61	442.64	2.53245	0.380	0.509	1275
-50.000	409.670	0.11046	9.053	0.07461	269.14	397.44	447.73	2.54504	0.381	0.510	1291
-40.000	419.670	0.10776	9.280	0.07275	276.07	401.29	452.84	2.55735	0.383	0.511	1307
-30.000	429.670	0.10519	9.507	0.07099	282.99	405.14	457.95	2.56940	0.384	0.512	1322
-20.000	439.670	0.10274	9.733	0.06931	289.90	409.01	463.08	2.58120	0.386	0.513	1337
-10.000	449.670	0.10040	9.960	0.06771	296.79	412.90	468.23	2.59276	0.387	0.515	1352
0.000	459.670	0.09817	10.186	0.06618	303.68	416.80	473.39	2.60411	0.389	0.517	1367
10.000	469.670	0.09604	10.412	0.06473	310.55	420.72	478.56	2.61524	0.391	0.518	1381
20.000	479.670	0.09400	10.638	0.06334	317.41	424.66	483.76	2.62619	0.393	0.520	1395
30.000	489.670	0.09205	10.864	0.06200	324.27	428.63	488.98	2.63695	0.396	0.523	1409
40.000	499.670	0.09018	11.089	0.06073	331.12	432.61	494.22	2.64754	0.398	0.525	1422
50.000	509.670	0.08838	11.315	0.05950	337.96	436.62	499.48	2.65796	0.401	0.527	1435
60.000	519.670	0.08665	11.540	0.05833	344.79	440.66	504.77	2.66824	0.404	0.530	1448
70.000	529.670	0.08500	11.765	0.05720	351.61	444.72	510.08	2.67836	0.406	0.533	1461
80.000	539.670	0.08340	11.990	0.05612	358.43	448.82	515.43	2.68836	0.409	0.536	1474
100.000	559.670	0.08038	12.440	0.05407	372.06	457.10	526.21	2.70795	0.416	0.542	1499
120.000	579.670	0.07758	12.890	0.05216	385.66	465.51	537.11	2.72711	0.423	0.549	1523
140.000	599.670	0.07497	13.339	0.05039	399.24	474.06	548.16	2.74584	0.430	0.556	1546
160.000	619.670	0.07252	13.788	0.04874	412.81	482.76	559.36	2.76420	0.438	0.563	1569
180.000	639.670	0.07024	14.237	0.04719	426.36	491.62	570.71	2.78222	0.446	0.571	1591
200.000	659.670	0.06809	14.686	0.04574	439.90	500.64	582.23	2.79994	0.455	0.580	1612
220.000	679.670	0.06608	15.134	0.04437	453.42	509.84	593.91	2.81739	0.463	0.588	1634
240.000	699.670	0.06417	15.582	0.04309	466.94	519.21	605.77	2.83458	0.472	0.597	1654
280.000	739.670	0.06069	16.478	0.04073	493.94	538.49	630.03	2.86829	0.491	0.616	1694
320.000	779.670	0.05756	17.374	0.03862	520.91	558.52	655.04	2.90120	0.510	0.634	1733
360.000	819.670	0.05474	18.269	0.03672	547.86	579.32	680.80	2.93341	0.529	0.653	1771
400.000	859.670	0.05218	19.163	0.03500	574.78	600.87	707.33	2.96499	0.548	0.673	1808
440.000	899.670	0.04986	20.058	0.03343	601.68	623.19	734.62	2.99601	0.567	0.691	1844

METHANE ISOBAR AT P = 40.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/CUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.324	163.346	28.195	0.03547	166.924	3627.74	93.12	93.39	1.01140	0.493	0.786	5173
-290.000	169.670	27.903	0.03584	159.616	3433.43	97.87	98.13	1.04134	0.491	0.791	5060
-280.000	179.670	27.433	0.03645	148.594	3130.63	105.58	105.85	1.08699	0.492	0.804	4867
-270.000	189.670	26.952	0.03710	138.177	2836.14	113.55	113.83	1.13095	0.494	0.819	4669
-260.000	199.670	26.458	0.03780	128.302	2552.54	121.72	122.00	1.17340	0.492	0.833	4473
-250.000	209.670	25.946	0.03854	118.904	2281.31	130.06	130.34	1.21441	0.488	0.845	4279
-240.000	219.670	25.414	0.03935	109.919	2023.12	138.54	138.83	1.25407	0.482	0.858	4086
-234.014	225.656	25.084	0.03987	104.713	1874.80	143.69	143.98	1.27724	0.478	0.866	3968
-234.014	225.656	0.28524	3.506	0.20243	129.43	325.97	351.94	2.19886	0.386	0.549	923
-230.000	229.670	0.27912	3.583	0.19735	132.91	327.60	354.14	2.20850	0.385	0.545	934
-220.000	239.670	0.26514	3.772	0.18605	141.37	331.61	359.54	2.23154	0.382	0.537	959
-210.000	249.670	0.25269	3.957	0.17628	149.58	335.57	364.88	2.25336	0.381	0.531	983
-200.000	259.670	0.24150	4.141	0.16768	157.58	339.50	370.17	2.27412	0.379	0.526	1007
-190.000	269.670	0.23135	4.322	0.16003	165.43	343.40	375.41	2.29394	0.378	0.523	1029
-180.000	279.670	0.22210	4.502	0.15315	173.14	347.28	380.62	2.31292	0.378	0.520	1051
-170.000	289.670	0.21363	4.681	0.14691	180.75	351.14	385.81	2.33114	0.377	0.517	1072
-160.000	299.670	0.20582	4.859	0.14122	188.27	354.99	390.98	2.34867	0.377	0.516	1092
-150.000	309.670	0.19860	5.035	0.13600	195.71	358.83	396.12	2.36556	0.377	0.514	1112
-140.000	319.670	0.19190	5.211	0.13119	203.09	362.66	401.26	2.38188	0.377	0.513	1132
-130.000	329.670	0.18566	5.386	0.12674	210.40	366.49	406.38	2.39766	0.377	0.512	1151
-120.000	339.670	0.17984	5.561	0.12260	217.67	370.31	411.49	2.41294	0.377	0.511	1170
-110.000	349.670	0.17438	5.734	0.11875	224.89	374.13	416.60	2.42776	0.377	0.511	1188
-100.000	359.670	0.16927	5.908	0.11514	232.07	377.95	421.71	2.44215	0.378	0.510	1206
-90.000	369.670	0.16445	6.081	0.11176	239.21	381.77	426.81	2.45615	0.378	0.510	1223
-80.000	379.670	0.15991	6.253	0.10859	246.33	385.60	431.92	2.46977	0.379	0.510	1240
-70.000	389.670	0.15563	6.426	0.10560	253.41	389.43	437.02	2.48304	0.380	0.511	1257
-60.000	399.670	0.15157	6.597	0.10277	260.47	393.26	442.13	2.49599	0.381	0.511	1273
-50.000	409.670	0.14773	6.769	0.10010	267.51	397.11	447.25	2.50863	0.382	0.512	1289
-40.000	419.670	0.14408	6.940	0.09758	274.53	400.96	452.37	2.52098	0.383	0.513	1305
-30.000	429.670	0.14062	7.112	0.09518	281.52	404.83	457.51	2.53307	0.384	0.514	1320
-20.000	439.670	0.13732	7.282	0.09290	288.50	408.71	462.65	2.54491	0.386	0.515	1336
-10.000	449.670	0.13417	7.453	0.09073	295.47	412.61	467.81	2.55651	0.388	0.517	1351
0.000	459.670	0.13117	7.624	0.08866	302.41	416.52	472.98	2.56789	0.390	0.518	1365
10.000	469.670	0.12831	7.794	0.08669	309.35	420.45	478.17	2.57906	0.392	0.520	1380
20.000	479.670	0.12557	7.964	0.08481	316.27	424.40	483.38	2.59003	0.394	0.522	1394
30.000	489.670	0.12294	8.134	0.08301	323.18	428.36	488.61	2.60081	0.396	0.524	1407
40.000	499.670	0.12043	8.304	0.08128	330.08	432.36	493.86	2.61143	0.398	0.526	1421
50.000	509.670	0.11801	8.474	0.07963	336.97	436.37	499.14	2.62188	0.401	0.529	1434
60.000	519.670	0.11570	8.643	0.07804	343.85	440.42	504.44	2.63217	0.404	0.531	1448
70.000	529.670	0.11347	8.813	0.07652	350.72	444.49	509.76	2.64232	0.407	0.534	1461
80.000	539.670	0.11133	8.982	0.07506	357.58	448.59	515.12	2.65233	0.410	0.537	1473
100.000	559.670	0.10729	9.321	0.07230	371.28	456.87	525.91	2.67197	0.416	0.543	1498
120.000	579.670	0.10353	9.659	0.06974	384.96	465.29	536.84	2.69114	0.423	0.549	1522
140.000	599.670	0.10003	9.997	0.06735	398.61	473.85	547.90	2.70990	0.430	0.557	1546
160.000	619.670	0.09677	10.334	0.06513	412.23	482.56	559.11	2.72828	0.438	0.564	1568
180.000	639.670	0.09371	10.672	0.06305	425.84	491.43	570.47	2.74633	0.446	0.572	1591
200.000	659.670	0.09084	11.009	0.06110	439.44	500.46	582.00	2.76407	0.455	0.580	1612
220.000	679.670	0.08814	11.346	0.05927	453.01	509.66	593.70	2.78153	0.463	0.589	1633
240.000	699.670	0.08560	11.682	0.05755	466.57	519.04	605.57	2.79874	0.472	0.598	1654
260.000	739.670	0.08094	12.355	0.05439	493.66	538.33	629.85	2.83248	0.491	0.616	1694
320.000	779.670	0.07676	13.028	0.05156	520.70	558.37	654.87	2.85541	0.510	0.635	1733
360.000	819.670	0.07299	13.700	0.04901	547.71	579.17	680.64	2.89764	0.529	0.654	1771
400.000	859.670	0.06958	14.371	0.04671	574.68	600.73	707.18	2.92924	0.548	0.673	1808
440.000	899.670	0.06648	15.043	0.04461	601.63	623.06	734.48	2.96027	0.567	0.692	1844

METHANE ISOBAR AT P = 50.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	CP/OT PSI/R	OP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	H FT/S
-296.292	163.378	28.197	0.03547	166.906	3629.08	93.13	93.46	1.01145	0.493	0.786	5174
-290.000	169.670	27.906	0.03584	159.639	3435.83	97.85	98.18	1.04123	0.491	0.791	5061
-280.000	179.670	27.436	0.03645	148.623	3133.24	105.56	105.90	1.08687	0.493	0.804	4868
-270.000	189.670	26.956	0.03710	138.211	2838.94	113.53	113.87	1.13083	0.494	0.819	4671
-260.000	199.670	26.462	0.03779	128.342	2555.50	121.70	122.04	1.17327	0.492	0.833	4475
-250.000	209.670	25.950	0.03853	118.950	2284.42	130.03	130.39	1.21426	0.488	0.845	4281
-240.000	219.670	25.419	0.03934	109.972	2026.37	138.51	138.87	1.25391	0.482	0.857	4088
-230.000	229.670	24.864	0.04022	101.345	1781.32	147.13	147.50	1.29239	0.475	0.872	3891
-227.617	232.053	24.727	0.04044	99.335	1724.78	149.21	149.58	1.30141	0.474	0.876	3843
-227.617	232.053	0.35130	2.847	0.25200	129.34	327.60	353.96	2.18216	0.389	0.560	929
-220.000	239.670	0.33713	2.966	0.24000	136.21	330.73	358.19	2.20009	0.386	0.551	949
-210.000	249.670	0.32061	3.119	0.22638	144.91	334.77	363.65	2.22243	0.383	0.542	975
-200.000	259.670	0.30583	3.270	0.21459	153.32	338.77	369.04	2.24360	0.382	0.536	999
-190.000	269.670	0.29253	3.418	0.20422	161.52	342.73	374.38	2.26376	0.380	0.531	1022
-180.000	279.670	0.28047	3.565	0.19499	169.53	346.65	379.66	2.28301	0.379	0.527	1045
-170.000	289.670	0.26947	3.711	0.18669	177.40	350.56	384.92	2.30146	0.378	0.524	1066
-160.000	299.670	0.25938	3.855	0.17918	185.16	354.44	390.14	2.31919	0.378	0.521	1087
-150.000	309.670	0.25008	3.999	0.17232	192.80	358.31	395.34	2.33625	0.378	0.519	1108
-140.000	319.670	0.24147	4.141	0.16603	200.36	362.17	400.52	2.35271	0.377	0.517	1128
-130.000	329.670	0.23343	4.283	0.16023	207.85	366.02	405.68	2.36861	0.377	0.516	1147
-120.000	339.670	0.22603	4.424	0.15486	215.27	369.87	410.83	2.38401	0.377	0.515	1166
-110.000	349.670	0.21908	4.565	0.14987	222.63	373.71	415.97	2.39893	0.378	0.514	1185
-100.000	359.670	0.21256	4.705	0.14522	229.94	377.55	421.11	2.41341	0.378	0.513	1203
-90.000	369.670	0.20643	4.844	0.14086	237.20	381.39	426.24	2.42748	0.379	0.513	1220
-80.000	379.670	0.20067	4.983	0.13679	244.43	385.23	431.37	2.44117	0.379	0.513	1238
-70.000	389.670	0.19523	5.122	0.13295	251.62	389.07	436.50	2.45450	0.380	0.513	1254
-60.000	399.670	0.19009	5.261	0.12934	258.77	392.93	441.63	2.46751	0.381	0.513	1271
-50.000	409.670	0.18523	5.399	0.12593	265.90	396.78	446.77	2.48020	0.382	0.514	1287
-40.000	419.670	0.18061	5.537	0.12270	272.99	400.65	451.91	2.49261	0.383	0.515	1303
-30.000	429.670	0.17623	5.674	0.11964	280.07	404.53	457.06	2.50474	0.385	0.516	1319
-20.000	439.670	0.17206	5.812	0.11674	287.12	408.42	462.23	2.51661	0.386	0.517	1334
-10.000	449.670	0.16809	5.949	0.11398	294.15	412.32	467.40	2.52825	0.388	0.518	1349
0.000	459.670	0.16431	6.086	0.11135	301.17	416.24	472.59	2.53966	0.390	0.520	1364
10.000	469.670	0.16069	6.223	0.10885	308.16	420.18	477.79	2.55086	0.392	0.521	1378
20.000	479.670	0.15724	6.360	0.10645	315.14	424.13	483.02	2.56186	0.394	0.523	1392
30.000	489.670	0.15393	6.496	0.10418	322.11	428.11	488.26	2.57267	0.396	0.525	1406
40.000	499.670	0.15077	6.633	0.10199	329.06	432.11	493.52	2.58331	0.399	0.527	1420
50.000	509.670	0.14773	6.769	0.09990	336.00	436.13	498.81	2.59378	0.401	0.530	1434
60.000	519.670	0.14482	6.905	0.09789	342.92	440.18	504.12	2.60410	0.404	0.532	1447
70.000	529.670	0.14202	7.041	0.09597	349.84	444.26	509.45	2.61427	0.407	0.535	1460
80.000	539.670	0.13933	7.177	0.09412	356.74	448.36	514.81	2.62430	0.410	0.538	1473
100.000	559.670	0.13425	7.449	0.09063	370.52	456.66	525.63	2.64397	0.416	0.544	1497
120.000	579.670	0.12953	7.720	0.08740	384.27	465.09	536.57	2.66317	0.423	0.550	1522
140.000	599.670	0.12514	7.991	0.08440	397.99	473.66	547.65	2.68196	0.430	0.557	1545
160.000	619.670	0.12104	8.262	0.08159	411.68	482.38	558.87	2.70037	0.438	0.565	1568
180.000	639.670	0.11720	8.532	0.07898	425.34	491.25	570.25	2.71843	0.446	0.573	1590
200.000	659.670	0.11361	8.802	0.07652	438.98	500.29	581.79	2.73619	0.455	0.581	1612
220.000	679.670	0.11022	9.072	0.07422	452.61	509.50	593.49	2.75367	0.463	0.590	1633
240.000	699.670	0.10704	9.342	0.07205	466.21	518.88	605.37	2.77090	0.472	0.598	1654
280.000	739.670	0.10120	9.881	0.06808	493.38	538.18	629.67	2.80466	0.491	0.617	1694
320.000	779.670	0.09597	10.420	0.06453	520.49	558.23	654.71	2.83762	0.510	0.635	1733
360.000	819.670	0.09125	10.958	0.06133	547.56	579.04	680.50	2.86987	0.529	0.654	1771
400.000	859.670	0.08698	11.496	0.05844	574.59	600.61	707.05	2.90148	0.548	0.673	1808
440.000	899.670	0.08310	12.034	0.05581	601.58	622.94	734.36	2.93253	0.567	0.692	1844

METHANE ISOBAR AT P = 60.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LP	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-296.260	163.410	28.198	0.03546	166.887	3630.41	93.13	93.53	1.01149	0.494	0.786	5174
-290.000	169.670	27.903	0.03583	159.662	3438.23	97.83	98.23	1.04112	0.491	0.791	5062
-280.000	179.670	27.439	0.03644	148.652	3135.85	105.54	105.95	1.08676	0.493	0.804	4869
-270.000	189.670	26.959	0.03709	138.245	2841.73	113.50	113.92	1.13071	0.494	0.819	4672
-260.000	199.670	26.466	0.03778	128.382	2558.46	121.67	122.09	1.17314	0.492	0.833	4476
-250.000	209.670	25.955	0.03853	118.996	2287.53	130.00	130.43	1.21412	0.488	0.845	4283
-240.000	219.670	25.424	0.03933	110.024	2029.63	138.47	138.91	1.25376	0.482	0.857	4090
-230.000	229.670	24.869	0.04021	101.405	1784.72	147.09	147.54	1.29222	0.475	0.872	3894
-222.109	237.561	24.412	0.04096	94.812	1600.25	154.01	154.47	1.32190	0.471	0.886	3733
-222.109	237.561	0.41697	2.398	0.30214	128.80	328.92	355.57	2.16843	0.391	0.570	933
-220.000	239.670	0.41209	2.427	0.29782	130.81	329.81	356.77	2.17345	0.390	0.567	939
-210.000	249.670	0.39079	2.559	0.27947	140.07	333.95	362.38	2.19639	0.387	0.555	966
-200.000	259.670	0.37200	2.688	0.26389	148.93	338.02	367.88	2.21802	0.384	0.547	991
-190.000	269.670	0.35522	2.815	0.25037	157.51	342.04	373.31	2.23854	0.382	0.540	1015
-180.000	279.670	0.34010	2.940	0.23847	165.85	346.02	378.68	2.25809	0.381	0.534	1038
-170.000	289.670	0.32638	3.064	0.22786	174.00	349.96	384.00	2.27679	0.380	0.530	1061
-160.000	299.670	0.31385	3.186	0.21831	182.00	353.89	389.29	2.29472	0.379	0.527	1082
-150.000	309.670	0.30234	3.307	0.20965	189.86	357.79	394.54	2.31196	0.379	0.524	1103
-140.000	319.670	0.29173	3.428	0.20175	197.62	361.68	399.77	2.32857	0.378	0.522	1124
-130.000	329.670	0.28189	3.547	0.19449	205.28	365.56	404.97	2.34461	0.378	0.520	1143
-120.000	339.670	0.27275	3.666	0.18780	212.86	369.43	410.16	2.36011	0.378	0.518	1163
-110.000	349.670	0.26422	3.785	0.18160	220.36	373.29	415.34	2.37514	0.378	0.517	1181
-100.000	359.670	0.25625	3.902	0.17583	227.80	377.15	420.51	2.38971	0.379	0.516	1200
-90.000	369.670	0.24877	4.020	0.17045	235.19	381.01	425.67	2.40386	0.379	0.516	1218
-80.000	379.670	0.24174	4.137	0.16542	242.53	384.86	430.82	2.41762	0.380	0.515	1235
-70.000	389.670	0.23512	4.253	0.16070	249.82	388.72	435.98	2.43102	0.380	0.515	1252
-60.000	399.670	0.22886	4.369	0.15626	257.07	392.59	441.13	2.44408	0.381	0.516	1269
-50.000	409.670	0.22295	4.485	0.15207	264.29	396.46	446.29	2.45683	0.382	0.516	1285
-40.000	419.670	0.21735	4.601	0.14812	271.47	400.34	451.45	2.46928	0.384	0.517	1301
-30.000	429.670	0.21203	4.716	0.14438	278.62	404.22	456.62	2.48146	0.385	0.517	1317
-20.000	439.670	0.20697	4.832	0.14083	285.75	408.12	461.80	2.49337	0.387	0.518	1333
-10.000	449.670	0.20217	4.946	0.13746	292.85	412.04	467.00	2.50504	0.388	0.520	1348
0.000	459.670	0.19758	5.061	0.13426	299.93	415.97	472.20	2.51649	0.390	0.521	1363
10.000	469.670	0.19321	5.176	0.13121	306.99	419.91	477.42	2.52772	0.392	0.523	1377
20.000	479.670	0.18903	5.290	0.12830	314.02	423.88	482.65	2.53875	0.394	0.524	1391
30.000	489.670	0.18503	5.404	0.12552	321.04	427.86	487.91	2.54959	0.396	0.526	1405
40.000	499.670	0.18121	5.519	0.12286	328.05	431.87	493.18	2.56025	0.399	0.529	1419
50.000	509.670	0.17754	5.633	0.12032	335.03	435.90	498.48	2.57075	0.401	0.531	1433
60.000	519.670	0.17402	5.746	0.11788	342.01	439.95	503.80	2.58108	0.404	0.533	1446
70.000	529.670	0.17064	5.860	0.11554	348.97	444.04	509.15	2.59127	0.407	0.536	1459
80.000	539.670	0.16740	5.974	0.11330	355.91	448.15	514.52	2.60132	0.410	0.539	1472
100.000	559.670	0.16127	6.201	0.10908	369.78	456.46	525.35	2.62103	0.416	0.545	1497
120.000	579.670	0.15558	6.428	0.10516	383.59	464.89	536.31	2.64026	0.423	0.551	1521
140.000	599.670	0.15023	6.654	0.10152	397.38	473.47	547.40	2.65907	0.431	0.558	1545
160.000	619.670	0.14535	6.880	0.09813	411.13	482.20	558.64	2.67751	0.438	0.566	1568
180.000	639.670	0.14073	7.106	0.09497	424.85	491.08	570.03	2.69559	0.446	0.573	1590
200.000	659.670	0.13640	7.332	0.09200	438.54	500.12	581.58	2.71337	0.455	0.582	1612
220.000	679.670	0.13233	7.557	0.08922	452.22	509.34	593.30	2.73087	0.464	0.590	1633
240.000	699.670	0.12850	7.782	0.08660	465.87	518.73	605.19	2.74811	0.473	0.599	1654
280.000	739.670	0.12147	8.232	0.08181	493.11	538.04	629.51	2.78190	0.491	0.617	1694
320.000	779.670	0.11518	8.682	0.07753	520.29	558.10	654.56	2.81488	0.510	0.636	1733
360.000	819.670	0.10952	9.131	0.07368	547.42	578.92	680.36	2.84715	0.529	0.655	1771
400.000	859.670	0.10439	9.579	0.07019	574.50	600.50	706.93	2.87878	0.548	0.674	1808
440.000	899.670	0.09972	10.028	0.06703	601.54	622.84	734.25	2.90984	0.567	0.692	1844

METHANE ISOBAR AT P = 70.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	CP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CF BTU/LB/R	W FT/S
-296.229	163.441	28.200	0.03546	166.869	3631.74	93.14	93.60	1.01153	0.494	0.785	5174
-290.000	169.670	27.911	0.03583	159.684	3440.63	97.81	98.27	1.04101	0.492	0.790	5063
-280.000	179.670	27.443	0.03644	148.680	3138.46	105.52	105.99	1.08664	0.493	0.804	4871
-270.000	189.670	26.963	0.03709	138.280	2844.53	113.48	113.96	1.13058	0.494	0.819	4674
-260.000	199.670	26.469	0.03778	128.422	2561.42	121.64	122.13	1.17300	0.493	0.832	4478
-250.000	209.670	25.959	0.03852	119.042	2290.63	129.97	130.47	1.21398	0.488	0.845	4285
-240.000	219.670	25.429	0.03933	110.077	2032.88	138.44	138.95	1.25360	0.482	0.857	4092
-230.000	229.670	24.875	0.04020	101.464	1788.12	147.05	147.57	1.29205	0.476	0.871	3896
-220.000	239.670	24.292	0.04117	93.145	1555.75	155.84	156.37	1.32956	0.471	0.890	3692
-217.241	242.429	24.126	0.04145	90.893	1493.69	158.30	158.83	1.33978	0.470	0.896	3634
-217.241	242.429	0.48245	2.073	0.35299	127.94	330.01	356.88	2.15671	0.393	0.581	936
-210.000	249.670	0.46349	2.158	0.33596	135.04	333.08	361.05	2.17364	0.390	0.570	956
-200.000	259.670	0.44018	2.272	0.31584	144.41	337.24	366.68	2.19579	0.387	0.558	983
-190.000	269.670	0.41955	2.384	0.29865	153.39	341.32	372.22	2.21671	0.384	0.549	1008
-180.000	279.670	0.40109	2.493	0.28369	162.08	345.36	377.68	2.23658	0.383	0.543	1032
-170.000	289.670	0.38443	2.601	0.27048	170.53	349.36	383.07	2.25554	0.381	0.537	1055
-160.000	299.670	0.36923	2.708	0.25868	178.79	353.32	388.42	2.27369	0.380	0.533	1077
-150.000	309.670	0.35543	2.813	0.24805	186.88	357.26	393.73	2.29112	0.380	0.529	1098
-140.000	319.670	0.34269	2.918	0.23838	194.84	361.18	399.01	2.30789	0.379	0.526	1119
-130.000	329.670	0.33092	3.022	0.22956	202.68	365.09	404.26	2.32407	0.379	0.524	1139
-120.000	339.670	0.32000	3.125	0.22144	210.42	368.98	409.49	2.33969	0.379	0.522	1159
-110.000	349.670	0.30984	3.227	0.21395	218.08	372.87	414.70	2.35482	0.379	0.521	1178
-100.000	359.670	0.30035	3.329	0.20700	225.66	376.75	419.90	2.36948	0.379	0.519	1197
-90.000	369.670	0.29147	3.431	0.20054	233.17	380.62	425.09	2.38372	0.380	0.519	1215
-80.000	379.670	0.28313	3.532	0.19450	240.62	384.49	430.28	2.39755	0.380	0.518	1233
-70.000	389.670	0.27523	3.633	0.18885	248.02	388.37	435.46	2.41102	0.381	0.518	1250
-60.000	399.670	0.26789	3.733	0.18355	255.37	392.25	440.63	2.42414	0.382	0.518	1267
-50.000	409.670	0.26090	3.833	0.17855	262.68	396.13	445.81	2.43694	0.383	0.518	1283
-40.000	419.670	0.25429	3.933	0.17384	269.95	400.02	451.00	2.44944	0.384	0.519	1300
-30.000	429.670	0.24801	4.032	0.16939	277.18	403.92	456.19	2.46166	0.385	0.519	1315
-20.000	439.670	0.24205	4.131	0.16518	284.38	407.83	461.38	2.47362	0.387	0.520	1331
-10.000	449.670	0.23639	4.230	0.16118	291.55	411.76	466.59	2.48533	0.388	0.521	1346
0.000	459.670	0.23099	4.329	0.15738	298.70	415.69	471.81	2.49681	0.390	0.523	1361
10.000	469.670	0.22584	4.428	0.15376	305.82	419.65	477.04	2.50807	0.392	0.524	1376
20.000	479.670	0.22093	4.526	0.15031	312.91	423.62	482.29	2.51913	0.394	0.526	1390
30.000	489.670	0.21623	4.625	0.14703	319.99	427.61	487.56	2.52999	0.397	0.528	1404
40.000	499.670	0.21174	4.723	0.14389	327.04	431.63	492.85	2.54068	0.399	0.530	1418
50.000	509.670	0.20743	4.821	0.14088	334.08	435.66	498.15	2.55120	0.402	0.532	1432
60.000	519.670	0.20330	4.919	0.13801	341.10	439.73	503.49	2.56156	0.404	0.534	1445
70.000	529.670	0.19933	5.017	0.13525	348.11	443.81	508.84	2.57177	0.407	0.537	1458
80.000	539.670	0.19552	5.114	0.13260	355.10	447.93	514.22	2.58183	0.410	0.540	1471
100.000	559.670	0.18834	5.310	0.12762	369.04	456.25	525.08	2.60158	0.417	0.546	1496
120.000	579.670	0.18167	5.504	0.12301	382.93	464.70	536.05	2.62084	0.423	0.552	1521
140.000	599.670	0.17547	5.699	0.11873	396.78	473.20	547.16	2.63968	0.431	0.559	1544
160.000	619.670	0.16969	5.893	0.11474	410.59	482.02	558.41	2.65813	0.438	0.566	1567
180.000	639.670	0.16428	6.087	0.11102	424.37	490.91	569.81	2.67624	0.447	0.574	1590
200.000	659.670	0.15921	6.281	0.10754	438.11	499.96	581.38	2.69404	0.455	0.582	1612
220.000	679.670	0.15445	6.475	0.10427	451.83	509.18	593.11	2.71156	0.464	0.591	1633
240.000	699.670	0.14997	6.668	0.10120	465.53	518.58	605.01	2.72881	0.473	0.599	1654
280.000	739.670	0.14176	7.054	0.09558	492.85	537.91	629.34	2.76263	0.491	0.617	1694
320.000	779.670	0.13441	7.440	0.09056	520.10	557.97	654.41	2.79563	0.510	0.636	1734
360.000	819.670	0.12773	7.825	0.08605	547.29	578.80	680.23	2.82792	0.529	0.655	1772
400.000	859.670	0.12180	8.210	0.08197	574.42	600.35	706.81	2.85957	0.548	0.674	1808
440.000	899.670	0.11635	8.595	0.07826	601.51	622.73	734.14	2.89064	0.567	0.693	1845

METHANE ISOBAR AT P = 80.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LP	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.197	163.473	28.201	0.03546	166.851	3633.07	93.15	93.67	1.01157	0.494	0.785	5175
-290.000	169.670	27.914	0.03582	159.706	3443.02	97.79	98.32	1.04090	0.492	0.790	5064
-280.000	179.670	27.446	0.03644	148.708	3141.07	105.50	106.04	1.08652	0.493	0.804	4872
-270.000	189.670	26.966	0.03708	138.314	2847.32	113.46	114.01	1.13046	0.494	0.819	4675
-260.000	199.670	26.473	0.03777	128.462	2564.37	121.62	122.18	1.17287	0.493	0.832	4480
-250.000	209.670	25.964	0.03852	119.088	2293.74	129.94	130.51	1.21384	0.488	0.844	4287
-240.000	219.670	25.434	0.03932	110.129	2036.12	138.40	138.99	1.25345	0.482	0.856	4095
-230.000	229.670	24.880	0.04019	101.524	1791.51	147.01	147.61	1.29188	0.476	0.871	3898
-220.000	239.670	24.299	0.04115	93.212	1559.30	155.79	156.40	1.32937	0.471	0.890	3695
-212.860	246.810	23.863	0.04191	87.423	1400.51	162.19	162.81	1.35573	0.468	0.906	3543
-212.860	246.810	0.54793	1.825	0.40464	126.84	330.94	357.97	2.14645	0.396	0.592	938
-210.000	249.670	0.53901	1.855	0.39633	129.80	332.17	359.66	2.15324	0.394	0.587	946
-200.000	259.670	0.51056	1.959	0.37074	139.73	336.43	365.44	2.17596	0.390	0.571	974
-190.000	269.670	0.48565	2.059	0.34927	149.16	340.59	371.09	2.19732	0.387	0.560	1000
-180.000	279.670	0.46353	2.157	0.33081	158.23	344.69	376.65	2.21755	0.385	0.551	1025
-170.000	289.670	0.44369	2.254	0.31467	166.99	348.74	382.12	2.23679	0.383	0.545	1049
-160.000	299.670	0.42573	2.349	0.30037	175.52	352.75	387.54	2.25518	0.382	0.539	1072
-150.000	309.670	0.40938	2.443	0.28756	183.86	356.72	392.91	2.27280	0.381	0.535	1094
-140.000	319.670	0.39439	2.536	0.27599	192.03	360.68	398.24	2.28974	0.380	0.531	1115
-130.000	329.670	0.38058	2.628	0.26546	200.06	364.61	403.54	2.30606	0.380	0.528	1135
-120.000	339.670	0.36780	2.719	0.25582	207.97	368.53	408.81	2.32181	0.380	0.526	1155
-110.000	349.670	0.35594	2.809	0.24695	215.78	372.44	414.06	2.33704	0.380	0.524	1175
-100.000	359.670	0.34488	2.900	0.23875	223.50	376.34	419.29	2.35180	0.380	0.523	1194
-90.000	369.670	0.33455	2.989	0.23114	231.14	380.23	424.51	2.36612	0.380	0.522	1212
-80.000	379.670	0.32486	3.078	0.22404	238.71	384.12	429.73	2.38003	0.381	0.521	1230
-70.000	389.670	0.31576	3.167	0.21742	246.21	388.01	434.93	2.39357	0.381	0.520	1248
-60.000	399.670	0.30718	3.255	0.21121	253.67	391.91	440.13	2.40675	0.382	0.520	1265
-50.000	409.670	0.29909	3.343	0.20537	261.07	395.80	445.33	2.41960	0.383	0.520	1281
-40.000	419.670	0.29144	3.431	0.19987	268.42	399.71	450.54	2.43215	0.384	0.521	1298
-30.000	429.670	0.28418	3.519	0.19469	275.74	403.62	455.75	2.44442	0.386	0.521	1314
-20.000	439.670	0.27730	3.606	0.18978	283.01	407.54	460.96	2.45641	0.387	0.522	1329
-10.000	449.670	0.27076	3.693	0.18513	290.25	411.47	466.18	2.46816	0.389	0.523	1345
0.000	459.670	0.26454	3.780	0.18071	297.47	415.42	471.42	2.47967	0.391	0.524	1360
10.000	469.670	0.25861	3.867	0.17652	304.65	419.38	476.67	2.49097	0.393	0.526	1375
20.000	479.670	0.25294	3.953	0.17252	311.80	423.36	481.93	2.50206	0.395	0.527	1389
30.000	489.670	0.24753	4.040	0.16871	318.94	427.36	487.21	2.51295	0.397	0.529	1403
40.000	499.670	0.24236	4.126	0.16507	326.04	431.39	492.51	2.52366	0.399	0.531	1417
50.000	509.670	0.23740	4.212	0.16160	333.13	435.43	497.83	2.53421	0.402	0.533	1431
60.000	519.670	0.23265	4.298	0.15827	340.20	439.50	503.17	2.54459	0.405	0.535	1444
70.000	529.670	0.22810	4.384	0.15508	347.25	443.59	508.54	2.55482	0.407	0.538	1458
80.000	539.670	0.22372	4.470	0.15203	354.26	447.72	513.93	2.56490	0.410	0.541	1471
100.000	559.670	0.21546	4.641	0.14627	368.31	456.05	524.80	2.58468	0.417	0.546	1496
120.000	579.670	0.20781	4.812	0.14095	382.27	464.51	535.79	2.60397	0.424	0.553	1520
140.000	599.670	0.20063	4.983	0.13602	396.19	473.10	546.92	2.62284	0.431	0.560	1544
160.000	619.670	0.19406	5.153	0.13143	410.06	481.85	558.18	2.64132	0.439	0.567	1567
180.000	639.670	0.18786	5.323	0.12714	423.89	490.74	569.60	2.65945	0.447	0.575	1590
200.000	659.670	0.18205	5.493	0.12314	437.69	499.80	581.18	2.67727	0.455	0.583	1611
220.000	679.670	0.17659	5.663	0.11938	451.46	509.03	592.92	2.69480	0.464	0.591	1633
240.000	699.670	0.17146	5.832	0.11585	465.19	518.43	604.83	2.71207	0.473	0.600	1654
260.000	739.670	0.16205	6.171	0.10939	492.60	537.77	629.18	2.74592	0.491	0.618	1694
280.000	779.670	0.15364	6.509	0.10363	519.91	557.85	654.27	2.77894	0.510	0.636	1734
360.000	819.670	0.14606	6.846	0.09845	547.16	578.68	680.10	2.81125	0.529	0.655	1772
400.000	859.670	0.13921	7.184	0.09377	574.35	600.28	706.69	2.84291	0.548	0.674	1809
440.000	899.670	0.13297	7.520	0.08952	601.48	622.63	734.04	2.87400	0.567	0.693	1845

METHANE ISOBAR AT P = 90.0 PSI

T	T	DEN	VOL	CP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.165	163.505	28.202	0.03546	166.832	3634.40	93.15	93.74	1.01162	0.494	0.785	5175
-290.000	169.670	27.917	0.03582	159.729	3445.41	97.77	98.37	1.04079	0.492	0.790	5065
-280.000	179.670	27.449	0.03643	148.737	3143.67	105.48	106.09	1.08641	0.493	0.804	4873
-270.000	189.670	26.970	0.03708	138.348	2850.11	113.43	114.05	1.13034	0.494	0.818	4676
-260.000	199.670	26.477	0.03777	128.502	2567.32	121.59	122.22	1.17274	0.493	0.832	4481
-250.000	209.670	25.968	0.03851	119.134	2296.84	129.91	130.55	1.21369	0.498	0.844	4289
-240.000	219.670	25.439	0.03931	110.181	2039.37	138.37	139.03	1.25329	0.482	0.856	4097
-230.000	229.670	24.886	0.04018	101.583	1794.90	146.97	147.64	1.29171	0.476	0.870	3901
-220.000	239.670	24.305	0.04114	93.279	1562.85	155.75	156.43	1.32919	0.471	0.889	3698
-210.000	249.670	23.690	0.04221	85.209	1342.17	164.74	165.44	1.36600	0.468	0.913	3484
-208.861	250.809	23.617	0.04234	84.302	1317.70	165.77	166.48	1.37017	0.468	0.917	3459
-208.861	250.809	0.61353	1.630	0.45717	125.56	331.72	358.88	2.13729	0.398	0.603	939
-200.000	259.670	0.58339	1.714	0.42897	134.88	335.58	364.15	2.15792	0.393	0.586	965
-190.000	269.670	0.55368	1.806	0.40245	144.81	339.83	369.93	2.17977	0.389	0.571	992
-180.000	279.670	0.52753	1.896	0.37998	154.28	344.00	375.59	2.20038	0.387	0.561	1018
-170.000	289.670	0.50422	1.983	0.36053	163.38	348.10	381.15	2.21993	0.385	0.552	1043
-160.000	299.670	0.48325	2.069	0.34345	172.20	352.16	386.64	2.23856	0.383	0.546	1066
-150.000	309.670	0.46422	2.154	0.32825	180.79	356.18	392.08	2.25639	0.382	0.541	1089
-140.000	319.670	0.44685	2.238	0.31459	189.18	360.16	397.46	2.27351	0.381	0.536	1110
-130.000	329.670	0.43090	2.321	0.30223	197.40	364.13	402.81	2.28997	0.381	0.533	1131
-120.000	339.670	0.41617	2.403	0.29095	205.49	368.08	408.12	2.30586	0.380	0.530	1152
-110.000	349.670	0.40253	2.484	0.28061	213.46	372.01	413.41	2.32120	0.380	0.528	1171
-100.000	359.670	0.38984	2.565	0.27108	221.32	375.93	418.68	2.33605	0.381	0.526	1191
-90.000	369.670	0.37800	2.645	0.26225	229.09	379.84	423.93	2.35046	0.381	0.525	1209
-80.000	379.670	0.36692	2.725	0.25405	236.78	383.75	429.17	2.36445	0.381	0.524	1227
-70.000	389.670	0.35652	2.805	0.24640	244.40	387.66	434.40	2.37805	0.382	0.523	1245
-60.000	399.670	0.34674	2.884	0.23925	251.95	391.57	439.63	2.39130	0.383	0.522	1263
-50.000	409.670	0.33751	2.963	0.23253	259.45	395.48	444.85	2.40421	0.384	0.522	1279
-40.000	419.670	0.32880	3.041	0.22622	266.89	399.39	450.08	2.41681	0.385	0.523	1296
-30.000	429.670	0.32055	3.120	0.22026	274.29	403.31	455.31	2.42912	0.386	0.523	1312
-20.000	439.670	0.31272	3.198	0.21464	281.64	407.25	460.54	2.44115	0.387	0.524	1328
-10.000	449.670	0.30529	3.276	0.20932	288.95	411.19	465.78	2.45294	0.389	0.525	1343
0.000	459.670	0.29823	3.353	0.20427	296.24	415.15	471.03	2.46449	0.391	0.526	1359
10.000	469.670	0.29149	3.431	0.19947	303.48	419.12	476.29	2.47582	0.393	0.527	1373
20.000	479.670	0.28507	3.508	0.19491	310.70	423.11	481.57	2.48694	0.395	0.528	1388
30.000	489.670	0.27894	3.585	0.19056	317.89	427.12	486.86	2.49786	0.397	0.530	1402
40.000	499.670	0.27308	3.662	0.18642	325.05	431.15	492.17	2.50860	0.399	0.532	1416
50.000	509.670	0.26746	3.739	0.18246	332.19	435.20	497.51	2.51916	0.402	0.534	1430
60.000	519.670	0.26209	3.816	0.17867	339.30	439.27	502.86	2.52956	0.405	0.537	1444
70.000	529.670	0.25693	3.892	0.17504	346.40	443.37	508.24	2.53981	0.408	0.539	1457
80.000	539.670	0.25198	3.969	0.17157	353.48	447.50	513.64	2.54992	0.411	0.542	1470
100.000	559.670	0.24264	4.121	0.16503	367.58	455.84	524.53	2.56973	0.417	0.547	1495
120.000	579.670	0.23399	4.274	0.15899	381.62	464.31	535.54	2.58906	0.424	0.554	1520
140.000	599.670	0.22595	4.426	0.15339	395.60	472.92	546.68	2.60795	0.431	0.560	1544
160.000	619.670	0.21846	4.577	0.14819	409.53	481.67	557.96	2.62645	0.439	0.568	1567
180.000	639.670	0.21146	4.729	0.14333	423.42	490.58	569.39	2.64460	0.447	0.575	1589
200.000	659.670	0.20491	4.880	0.13879	437.27	499.64	580.98	2.66244	0.455	0.583	1611
220.000	679.670	0.19875	5.031	0.13454	451.09	508.88	592.73	2.67999	0.464	0.592	1633
240.000	699.670	0.19296	5.182	0.13054	464.87	518.29	604.65	2.69728	0.473	0.500	1654
280.000	739.670	0.18236	5.484	0.12324	492.35	537.64	629.03	2.73115	0.491	0.518	1694
320.000	779.670	0.17288	5.785	0.11673	519.73	557.73	654.13	2.76420	0.510	0.637	1734
360.000	819.670	0.16434	6.085	0.11087	547.04	578.57	679.98	2.79652	0.529	0.656	1772
400.000	859.670	0.15662	6.385	0.10559	574.28	600.17	706.58	2.82821	0.548	0.674	1809
440.000	899.670	0.14960	6.685	0.10079	601.46	622.54	733.94	2.85931	0.568	0.693	1845

METHANE ISOBAR AT P = 100.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-296.133	163.537	28.204	0.03546	166.814	3635.73	93.16	93.81	1.01166	0.494	0.785	5175
-290.000	169.670	27.920	0.03582	159.751	3447.80	97.75	98.42	1.04068	0.492	0.790	5066
-280.000	179.670	27.452	0.03643	148.765	3146.28	105.46	106.13	1.08629	0.493	0.804	4874
-270.000	189.670	26.973	0.03707	138.382	2852.89	113.41	114.10	1.13021	0.494	0.818	4678
-260.000	199.670	26.481	0.03776	128.542	2570.27	121.56	122.26	1.17261	0.493	0.832	4483
-250.000	209.670	25.972	0.03850	119.180	2299.94	129.88	130.59	1.21355	0.488	0.844	4291
-240.000	219.670	25.444	0.03930	110.233	2042.61	138.34	139.06	1.25314	0.482	0.856	4099
-230.000	229.670	24.892	0.04017	101.642	1798.29	146.94	147.68	1.29154	0.476	0.870	3903
-220.000	239.670	24.312	0.04113	93.346	1566.40	155.70	156.46	1.32900	0.471	0.889	3701
-210.000	249.670	23.697	0.04220	85.285	1345.90	164.68	165.46	1.36579	0.468	0.913	3488
-205.175	254.495	23.387	0.04276	81.460	1243.16	169.11	169.90	1.38340	0.467	0.927	3381
-205.175	254.495	0.67934	1.472	0.51064	124.14	332.40	359.65	2.12899	0.400	0.614	940
-200.000	259.670	0.65894	1.518	0.49095	129.86	334.70	362.80	2.14123	0.397	0.602	956
-190.000	269.670	0.62382	1.603	0.45846	140.33	339.04	368.73	2.16363	0.392	0.584	984
-180.000	279.670	0.59321	1.686	0.43137	150.23	343.28	374.50	2.18465	0.389	0.571	1011
-170.000	289.670	0.56613	1.766	0.40819	159.70	347.45	380.16	2.20453	0.386	0.561	1036
-160.000	299.670	0.54190	1.845	0.38801	168.82	351.56	385.73	2.22343	0.385	0.553	1061
-150.000	309.670	0.52002	1.923	0.37018	177.67	355.62	391.23	2.24148	0.383	0.547	1084
-140.000	319.670	0.50012	2.000	0.35425	186.29	359.64	396.67	2.25878	0.382	0.542	1106
-130.000	329.670	0.48190	2.075	0.33990	194.72	363.64	402.06	2.27540	0.382	0.538	1127
-120.000	339.670	0.46514	2.150	0.32687	202.99	367.61	407.42	2.29142	0.381	0.534	1148
-110.000	349.670	0.44964	2.224	0.31496	211.12	371.57	412.75	2.30688	0.381	0.532	1168
-100.000	359.670	0.43525	2.298	0.30402	219.13	375.51	418.06	2.32184	0.381	0.529	1188
-90.000	369.670	0.42185	2.371	0.29391	227.03	379.45	423.34	2.33633	0.381	0.528	1206
-80.000	379.670	0.40933	2.443	0.28454	234.84	383.37	428.61	2.35040	0.382	0.526	1225
-70.000	389.670	0.39759	2.515	0.27581	242.57	387.30	433.87	2.36407	0.382	0.525	1243
-60.000	399.670	0.38656	2.587	0.26767	250.23	391.22	439.12	2.37738	0.383	0.525	1260
-50.000	409.670	0.37618	2.658	0.26004	257.82	395.15	444.37	2.39035	0.384	0.525	1277
-40.000	419.670	0.36637	2.729	0.25288	265.36	399.07	449.62	2.40300	0.385	0.525	1294
-30.000	429.670	0.35710	2.800	0.24613	272.84	403.01	454.86	2.41536	0.386	0.525	1310
-20.000	439.670	0.34832	2.871	0.23976	280.27	406.95	460.11	2.42744	0.388	0.525	1326
-10.000	449.670	0.33998	2.941	0.23375	287.66	410.91	465.37	2.43926	0.389	0.526	1342
0.000	459.670	0.33205	3.012	0.22804	295.00	414.87	470.64	2.45085	0.391	0.527	1357
10.000	469.670	0.32451	3.082	0.22263	302.31	418.85	475.92	2.46221	0.393	0.528	1372
20.000	479.670	0.31732	3.151	0.21749	309.59	422.85	481.21	2.47335	0.395	0.530	1387
30.000	489.670	0.31045	3.221	0.21259	316.84	426.87	486.52	2.48430	0.397	0.532	1401
40.000	499.670	0.30389	3.291	0.20793	324.05	430.90	491.84	2.49507	0.400	0.533	1415
50.000	509.670	0.29761	3.360	0.20347	331.24	434.96	497.18	2.50566	0.402	0.535	1429
60.000	519.670	0.29160	3.429	0.19921	338.41	439.05	502.55	2.51608	0.405	0.538	1443
70.000	529.670	0.28583	3.499	0.19514	345.55	443.15	507.94	2.52635	0.408	0.540	1456
80.000	539.670	0.28030	3.568	0.19123	352.67	447.29	513.35	2.53648	0.411	0.543	1469
100.000	559.670	0.26987	3.705	0.18389	366.85	455.64	524.26	2.55632	0.417	0.548	1495
120.000	579.670	0.26022	3.843	0.17712	380.96	464.12	535.28	2.57568	0.424	0.554	1519
140.000	599.670	0.25125	3.980	0.17085	395.01	472.74	546.44	2.59460	0.431	0.561	1543
160.000	619.670	0.24289	4.117	0.16502	409.01	481.50	557.73	2.61312	0.439	0.568	1567
180.000	639.670	0.23509	4.254	0.15958	422.95	490.41	569.18	2.63130	0.447	0.576	1589
200.000	659.670	0.22779	4.390	0.15451	436.86	499.49	580.78	2.64916	0.455	0.584	1611
220.000	679.670	0.22093	4.526	0.14975	450.72	508.73	592.54	2.66672	0.464	0.592	1633
240.000	699.670	0.21448	4.662	0.14529	464.55	518.14	604.48	2.68403	0.473	0.601	1654
280.000	739.670	0.20267	4.934	0.13713	492.11	537.50	628.87	2.71792	0.491	0.619	1694
320.000	779.670	0.19212	5.205	0.12985	519.56	557.60	653.99	2.75099	0.510	0.637	1734
360.000	819.670	0.18262	5.476	0.12333	546.92	578.46	679.85	2.78334	0.529	0.656	1772
400.000	859.670	0.17403	5.746	0.11743	574.21	600.07	706.47	2.81504	0.549	0.675	1809
440.000	899.670	0.16622	6.016	0.11209	601.44	622.44	733.84	2.84615	0.568	0.694	1845

METHANE ISOBAR AT P = 120.0 PSI

T	T	DEN	VOL	CP/DT	DP/DO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.069	163.601	28.206	0.03545	166.778	3638.39	93.17	93.96	1.01174	0.494	0.785	5176
-290.000	169.670	27.926	0.03581	159.796	3452.57	97.72	98.51	1.04046	0.492	0.790	5068
-280.000	179.670	27.459	0.03642	148.822	3151.47	105.42	106.23	1.08606	0.493	0.803	4877
-270.000	189.670	26.980	0.03706	138.450	2858.46	113.36	114.19	1.12996	0.494	0.818	4681
-260.000	199.670	26.489	0.03775	128.621	2576.16	121.51	122.35	1.17234	0.493	0.831	4486
-250.000	209.670	25.981	0.03849	119.271	2306.12	129.82	130.68	1.21327	0.489	0.843	4295
-240.000	219.670	25.453	0.03929	110.337	2049.08	138.27	139.14	1.25283	0.482	0.855	4103
-230.000	229.670	24.903	0.04016	101.760	1805.05	146.86	147.75	1.29121	0.476	0.869	3908
-220.000	239.670	24.324	0.04111	93.479	1573.47	155.61	156.53	1.32863	0.471	0.888	3706
-210.000	249.670	23.712	0.04217	85.437	1353.33	164.58	165.52	1.36538	0.468	0.912	3494
-200.000	259.670	23.058	0.04337	77.566	1143.23	173.82	174.78	1.40176	0.467	0.943	3271
-198.538	261.132	22.953	0.04356	76.425	1113.26	175.20	176.16	1.40707	0.467	0.948	3237
-198.538	261.132	0.81195	1.232	0.62068	120.98	333.48	360.85	2.11431	0.404	0.637	941
-190.000	269.670	0.77128	1.297	0.58032	130.95	337.38	366.19	2.13442	0.398	0.614	967
-180.000	279.670	0.73017	1.370	0.54165	141.84	341.79	372.22	2.15641	0.394	0.594	996
-170.000	289.670	0.69442	1.440	0.50944	152.09	346.09	378.09	2.17703	0.390	0.580	1023
-160.000	299.670	0.66286	1.509	0.48194	161.88	350.31	383.84	2.19652	0.388	0.569	1049
-150.000	309.670	0.63465	1.576	0.45803	171.29	354.47	389.48	2.21505	0.386	0.560	1073
-140.000	319.670	0.60921	1.641	0.43693	180.39	358.57	395.05	2.23274	0.385	0.553	1097
-130.000	329.670	0.58608	1.706	0.41812	189.25	362.64	400.55	2.24970	0.384	0.548	1119
-120.000	339.670	0.56492	1.770	0.40118	197.90	366.67	406.01	2.26600	0.383	0.543	1140
-110.000	349.670	0.54545	1.833	0.38581	206.36	370.68	411.42	2.28171	0.383	0.540	1161
-100.000	359.670	0.52746	1.896	0.37177	214.68	374.67	416.80	2.29688	0.382	0.537	1181
-90.000	369.670	0.51076	1.958	0.35888	222.86	378.65	422.15	2.31156	0.383	0.534	1201
-80.000	379.670	0.49521	2.019	0.34699	230.93	382.61	427.49	2.32579	0.383	0.532	1220
-70.000	389.670	0.48067	2.080	0.33596	238.89	386.57	432.80	2.33961	0.383	0.531	1238
-60.000	399.670	0.46705	2.141	0.32571	246.76	390.53	438.10	2.35305	0.384	0.530	1256
-50.000	409.670	0.45425	2.201	0.31613	254.55	394.48	443.40	2.36613	0.385	0.529	1273
-40.000	419.670	0.44219	2.261	0.30716	262.26	398.43	448.69	2.37889	0.386	0.529	1290
-30.000	429.670	0.43080	2.321	0.29874	269.91	402.39	453.97	2.39134	0.387	0.529	1307
-20.000	439.670	0.42003	2.381	0.29082	277.51	406.36	459.26	2.40351	0.388	0.529	1323
-10.000	449.670	0.40982	2.440	0.28334	285.04	410.34	464.56	2.41541	0.390	0.530	1339
0.000	459.670	0.40014	2.499	0.27627	292.53	414.32	469.86	2.42707	0.392	0.530	1355
10.000	469.670	0.39092	2.558	0.26958	299.97	418.32	475.16	2.43849	0.394	0.531	1370
20.000	479.670	0.38215	2.617	0.26322	307.37	422.34	480.48	2.44970	0.396	0.533	1385
30.000	489.670	0.37379	2.675	0.25718	314.73	426.37	485.82	2.46071	0.398	0.534	1399
40.000	499.670	0.36580	2.734	0.25143	322.06	430.42	491.17	2.47152	0.400	0.536	1414
50.000	509.670	0.35816	2.792	0.24595	329.35	434.50	496.54	2.48216	0.403	0.538	1428
60.000	519.670	0.35086	2.850	0.24072	336.62	438.59	501.92	2.49263	0.405	0.540	1441
70.000	529.670	0.34385	2.908	0.23571	343.85	442.71	507.33	2.50294	0.408	0.542	1455
80.000	539.670	0.33714	2.966	0.23093	351.06	446.86	512.77	2.51311	0.411	0.545	1468
100.000	559.670	0.32450	3.082	0.22194	365.41	455.24	523.71	2.53302	0.417	0.550	1494
120.000	579.670	0.31281	3.197	0.21366	379.67	463.74	534.78	2.55244	0.424	0.556	1519
140.000	599.670	0.30195	3.312	0.20600	393.85	472.37	545.96	2.57141	0.431	0.563	1543
160.000	619.670	0.29186	3.426	0.19890	407.97	481.15	557.29	2.58999	0.439	0.570	1566
180.000	639.670	0.28243	3.541	0.19228	422.03	490.08	568.76	2.60821	0.447	0.577	1589
200.000	659.670	0.27361	3.655	0.18611	436.04	499.17	580.38	2.62610	0.456	0.585	1611
220.000	679.670	0.26534	3.769	0.18033	450.00	508.43	592.17	2.64370	0.464	0.593	1632
240.000	699.670	0.25757	3.883	0.17491	463.91	517.85	604.13	2.66104	0.473	0.602	1654
260.000	739.670	0.24334	4.110	0.16501	491.63	537.24	628.56	2.69499	0.492	0.620	1695
320.000	779.670	0.23063	4.336	0.15620	519.22	557.36	653.71	2.72811	0.510	0.638	1734
360.000	819.670	0.21920	4.562	0.14831	546.71	578.23	679.61	2.76049	0.530	0.657	1772
400.000	859.670	0.20887	4.788	0.14118	574.10	599.86	706.25	2.79222	0.549	0.675	1809
440.000	899.670	0.19948	5.013	0.13473	601.41	622.25	733.64	2.82336	0.568	0.694	1846

METHANE ISOBAR AT P = 140.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-296.006	163.664	28.209	0.03545	166.741	3641.04	93.18	94.10	1.01183	0.494	0.785	5177
-290.000	169.670	27.932	0.03580	159.840	3457.33	97.68	98.61	1.04024	0.492	0.790	5070
-280.000	179.670	27.465	0.03641	148.878	3156.66	105.38	106.32	1.08583	0.493	0.803	4879
-270.000	189.670	26.987	0.03705	138.518	2864.02	113.32	114.28	1.12972	0.495	0.818	4684
-260.000	199.670	26.497	0.03774	128.700	2582.04	121.46	122.44	1.17208	0.493	0.831	4490
-250.000	209.670	25.990	0.03848	119.362	2312.30	129.76	130.76	1.21298	0.489	0.843	4298
-240.000	219.670	25.463	0.03927	110.441	2055.54	138.20	139.22	1.25252	0.482	0.855	4107
-230.000	229.670	24.914	0.04014	101.877	1811.80	146.78	147.82	1.29087	0.476	0.869	3913
-220.000	239.670	24.337	0.04109	93.612	1580.53	155.53	156.59	1.32826	0.471	0.887	3712
-210.000	249.670	23.727	0.04215	85.587	1360.75	164.48	165.57	1.36496	0.468	0.910	3501
-200.000	259.670	23.076	0.04334	77.738	1151.07	173.70	174.82	1.40129	0.467	0.941	3278
-192.659	267.011	22.565	0.04432	72.043	1002.65	180.68	181.83	1.42790	0.466	0.969	3107
-192.659	267.011	0.94630	1.057	0.73516	117.52	334.29	361.69	2.10149	0.408	0.662	940
-190.000	269.670	0.93009	1.075	0.71818	120.93	335.56	363.43	2.10800	0.406	0.652	949
-180.000	279.670	0.87572	1.142	0.66364	133.00	340.19	368.80	2.13117	0.399	0.623	981
-170.000	289.670	0.82945	1.206	0.61970	144.17	344.66	375.92	2.15267	0.394	0.602	1010
-160.000	299.670	0.78922	1.267	0.58304	154.69	349.01	381.86	2.17284	0.391	0.587	1037
-150.000	309.670	0.75370	1.327	0.55172	164.72	353.27	387.67	2.19191	0.389	0.575	1063
-140.000	319.670	0.72197	1.385	0.52447	174.35	357.46	393.37	2.21005	0.387	0.566	1087
-130.000	329.670	0.69335	1.442	0.50043	183.66	361.61	399.00	2.22737	0.386	0.559	1110
-120.000	339.670	0.66733	1.499	0.47899	192.71	365.71	404.55	2.24398	0.385	0.553	1133
-110.000	349.670	0.64352	1.554	0.45969	201.53	369.77	410.06	2.25995	0.384	0.548	1154
-100.000	359.670	0.62161	1.609	0.44217	210.16	373.81	415.52	2.27534	0.384	0.544	1175
-90.000	369.670	0.60137	1.663	0.42618	218.63	377.83	420.94	2.29022	0.384	0.541	1195
-80.000	379.670	0.58257	1.717	0.41150	226.96	381.84	426.34	2.30463	0.384	0.538	1214
-70.000	389.670	0.56505	1.770	0.39794	235.16	385.83	431.71	2.31860	0.384	0.536	1233
-60.000	399.670	0.54868	1.823	0.38538	243.25	389.82	437.07	2.33217	0.385	0.535	1252
-50.000	409.670	0.53333	1.875	0.37369	251.24	393.81	442.41	2.34533	0.386	0.534	1269
-40.000	419.670	0.51890	1.927	0.36278	259.15	397.79	447.75	2.35824	0.387	0.533	1287
-30.000	429.670	0.50530	1.979	0.35257	266.97	401.77	453.08	2.37079	0.388	0.533	1304
-20.000	439.670	0.49246	2.031	0.34297	274.72	405.76	458.41	2.38305	0.389	0.533	1320
-10.000	449.670	0.48032	2.082	0.33394	282.41	409.76	463.73	2.39504	0.391	0.533	1336
0.000	459.670	0.46880	2.133	0.32542	290.04	413.77	469.07	2.40677	0.392	0.534	1352
10.000	469.670	0.45786	2.184	0.31736	297.61	417.79	474.41	2.41826	0.394	0.534	1368
20.000	479.670	0.44746	2.235	0.30973	305.14	421.82	479.76	2.42953	0.396	0.536	1383
30.000	489.670	0.43755	2.285	0.30248	312.62	425.87	485.12	2.44059	0.398	0.537	1397
40.000	499.670	0.42809	2.336	0.29560	320.06	429.94	490.50	2.45146	0.401	0.538	1412
50.000	509.670	0.41906	2.386	0.28904	327.46	434.03	495.89	2.46215	0.403	0.540	1426
60.000	519.670	0.41043	2.436	0.28279	334.82	438.14	501.30	2.47266	0.406	0.542	1440
70.000	529.670	0.40216	2.487	0.27682	342.15	442.27	506.73	2.48302	0.409	0.544	1453
80.000	539.670	0.39424	2.537	0.27111	349.45	446.43	512.19	2.49322	0.411	0.547	1467
100.000	559.670	0.37934	2.636	0.26042	363.96	454.83	523.17	2.51321	0.418	0.552	1493
120.000	579.670	0.36557	2.735	0.25058	378.37	463.35	534.27	2.53269	0.425	0.558	1518
140.000	599.670	0.35281	2.834	0.24149	392.69	472.01	545.49	2.55172	0.432	0.564	1542
160.000	619.670	0.34094	2.933	0.23307	406.94	480.81	556.84	2.57034	0.439	0.571	1565
180.000	639.670	0.32987	3.031	0.22524	421.11	489.75	568.34	2.58860	0.448	0.579	1588
200.000	659.670	0.31952	3.130	0.21794	435.23	498.86	579.99	2.60654	0.456	0.586	1611
220.000	679.670	0.30982	3.228	0.21112	449.28	508.13	591.80	2.62417	0.465	0.595	1632
240.000	699.670	0.30071	3.326	0.20472	463.29	517.57	603.78	2.64154	0.473	0.603	1653
280.000	739.670	0.28404	3.521	0.19305	491.17	536.98	628.25	2.67555	0.492	0.621	1695
320.000	779.670	0.26916	3.715	0.18268	518.89	557.12	653.44	2.70871	0.511	0.639	1734
360.000	819.670	0.25579	3.909	0.17339	546.50	578.01	679.36	2.74113	0.530	0.657	1773
400.000	859.670	0.24371	4.103	0.16502	573.99	599.66	706.03	2.77290	0.549	0.676	1810
440.000	899.670	0.23273	4.297	0.15744	601.40	622.06	733.45	2.80407	0.568	0.695	1846

METHANE ISOBAR AT P = 160.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/CUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-295.942	163.728	28.212	0.03545	166.705	3643.69	93.19	94.24	1.01192	0.494	0.785	5177
-290.000	169.670	27.937	0.03579	159.885	3462.08	97.64	98.70	1.04002	0.492	0.790	5072
-280.000	179.670	27.471	0.03640	148.934	3161.84	105.34	106.41	1.08560	0.494	0.803	4881
-270.000	189.670	26.994	0.03704	138.585	2869.56	113.27	114.37	1.12947	0.495	0.817	4686
-260.000	199.670	26.504	0.03773	128.779	2587.91	121.41	122.52	1.17182	0.493	0.831	4493
-250.000	209.670	25.998	0.03846	119.452	2318.46	129.70	130.84	1.21270	0.489	0.842	4302
-240.000	219.670	25.473	0.03926	110.544	2061.99	138.14	139.30	1.25222	0.483	0.854	4112
-230.000	229.670	24.925	0.04012	101.993	1818.53	146.71	147.89	1.29054	0.476	0.868	3918
-220.000	239.670	24.353	0.04107	93.744	1587.57	155.44	156.65	1.32789	0.471	0.886	3718
-210.000	249.670	23.742	0.04212	85.737	1368.13	164.37	165.62	1.36455	0.468	0.909	3507
-200.000	259.670	23.093	0.04330	77.910	1158.88	173.58	174.86	1.40082	0.467	0.939	3286
-190.000	269.670	22.392	0.04466	70.185	958.22	183.12	184.44	1.43701	0.466	0.978	3053
-187.357	272.313	22.196	0.04505	68.149	906.41	185.70	187.04	1.44660	0.465	0.990	2989
-187.357	272.313	1.0828	0.9235	0.8545	113.86	334.85	362.25	2.09002	0.412	0.688	938
-180.000	279.670	1.0316	0.9694	0.8001	123.66	338.47	367.19	2.10793	0.405	0.657	964
-170.000	289.670	0.9723	1.0285	0.7406	135.90	343.14	373.61	2.13048	0.399	0.628	995
-160.000	299.670	0.9217	1.0850	0.6924	147.26	347.64	379.78	2.15144	0.395	0.608	1024
-150.000	309.670	0.8777	1.1394	0.6520	157.96	352.02	385.78	2.17112	0.392	0.592	1052
-140.000	319.670	0.8388	1.1922	0.6174	168.16	356.32	391.64	2.18974	0.390	0.580	1077
-130.000	329.670	0.8040	1.2438	0.5872	177.96	360.54	397.39	2.20747	0.388	0.571	1102
-120.000	339.670	0.7725	1.2944	0.5606	187.43	364.71	403.06	2.22441	0.387	0.563	1125
-110.000	349.670	0.7440	1.3441	0.5368	196.62	368.84	408.66	2.24066	0.386	0.557	1147
-100.000	359.670	0.7178	1.3931	0.5154	205.59	372.94	414.21	2.25630	0.385	0.552	1169
-90.000	369.670	0.6937	1.4414	0.4959	214.35	377.00	419.71	2.27139	0.385	0.548	1189
-80.000	379.670	0.6715	1.4893	0.4782	222.95	381.05	425.18	2.28598	0.385	0.545	1209
-70.000	389.670	0.6508	1.5366	0.4618	231.40	385.09	430.61	2.30011	0.385	0.542	1228
-60.000	399.670	0.6315	1.5835	0.4468	239.71	389.11	436.02	2.31382	0.386	0.540	1247
-50.000	409.670	0.6135	1.6301	0.4328	247.91	393.12	441.42	2.32715	0.386	0.539	1265
-40.000	419.670	0.5965	1.6763	0.4198	256.01	397.14	446.80	2.34013	0.387	0.538	1283
-30.000	429.670	0.5806	1.7222	0.4076	264.01	401.15	452.17	2.35279	0.388	0.537	1300
-20.000	439.670	0.5656	1.7679	0.3963	271.92	405.16	457.54	2.36513	0.390	0.537	1317
-10.000	449.670	0.5515	1.8133	0.3856	279.77	409.18	462.91	2.37720	0.391	0.537	1334
0.000	459.670	0.5381	1.8586	0.3755	287.54	413.21	468.27	2.38901	0.393	0.537	1350
10.000	469.670	0.5253	1.9036	0.3660	295.25	417.25	473.65	2.40057	0.395	0.538	1365
20.000	479.670	0.5132	1.9484	0.3570	302.90	421.30	479.03	2.41191	0.397	0.538	1380
30.000	489.670	0.5017	1.9931	0.3485	310.50	425.37	484.42	2.42303	0.399	0.540	1395
40.000	499.670	0.4908	2.0376	0.3404	318.05	429.45	489.82	2.43395	0.401	0.541	1410
50.000	509.670	0.4803	2.0820	0.3328	325.55	433.55	495.24	2.44469	0.404	0.543	1424
60.000	519.670	0.4703	2.1262	0.3254	333.02	437.68	500.67	2.45525	0.406	0.544	1438
70.000	529.670	0.4608	2.1703	0.3185	340.44	441.83	506.13	2.46564	0.409	0.547	1452
80.000	539.670	0.4516	2.2143	0.3118	347.83	446.00	511.60	2.47589	0.412	0.549	1465
100.000	559.670	0.4344	2.3020	0.2993	362.51	454.43	522.63	2.49595	0.418	0.554	1492
120.000	579.670	0.4185	2.3894	0.2879	377.08	462.97	533.76	2.51549	0.425	0.560	1517
140.000	599.670	0.4038	2.4764	0.2773	391.54	471.64	545.01	2.53457	0.432	0.566	1541
160.000	619.670	0.3902	2.5631	0.2675	405.91	480.46	556.40	2.55325	0.440	0.573	1565
180.000	639.670	0.3774	2.6496	0.2585	420.20	489.42	567.92	2.57155	0.448	0.580	1588
200.000	659.670	0.3655	2.7359	0.2500	434.42	498.54	579.60	2.58953	0.456	0.588	1610
220.000	679.670	0.3544	2.8219	0.2421	448.57	507.83	591.43	2.60720	0.465	0.596	1632
240.000	699.670	0.3439	2.9078	0.2347	462.67	517.28	603.43	2.62460	0.474	0.604	1653
260.000	739.670	0.3248	3.0791	0.2212	490.71	536.72	627.94	2.65866	0.492	0.622	1695
320.000	779.670	0.3077	3.2498	0.2093	518.57	556.88	653.17	2.69187	0.511	0.640	1734
360.000	819.670	0.2924	3.4201	0.1986	546.29	577.79	679.12	2.72433	0.530	0.658	1773
400.000	859.670	0.2786	3.5900	0.1889	573.90	599.46	705.82	2.75613	0.549	0.677	1810
440.000	899.670	0.2660	3.7595	0.1802	601.39	621.87	733.26	2.78732	0.568	0.695	1847

METHANE ISOBAR AT P = 180.0 PSI

T	T	DEN	VOL	CP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-295.879	163.791	28.215	0.03544	166.669	3646.33	93.20	94.38	1.01200	0.494	0.785	5178
-290.000	169.670	27.943	0.03579	159.929	3466.82	97.61	98.80	1.03980	0.493	0.789	5074
-280.000	179.670	27.478	0.03639	148.990	3167.01	105.29	106.51	1.08536	0.494	0.803	4884
-270.000	189.670	27.001	0.03704	138.652	2875.10	113.22	114.46	1.12923	0.495	0.817	4689
-260.000	199.670	26.512	0.03772	128.858	2593.77	121.35	122.61	1.17155	0.494	0.830	4496
-250.000	209.670	26.007	0.03845	119.543	2324.61	129.64	130.93	1.21242	0.489	0.842	4306
-240.000	219.670	25.483	0.03924	110.646	2068.42	138.07	139.38	1.25191	0.483	0.854	4116
-230.000	229.670	24.936	0.04010	102.109	1825.24	146.63	147.97	1.29020	0.477	0.867	3923
-220.000	239.670	24.362	0.04105	93.875	1594.59	155.35	156.72	1.32752	0.472	0.885	3723
-210.000	249.670	23.756	0.04209	85.886	1375.50	164.27	165.68	1.36414	0.469	0.908	3514
-200.000	259.670	23.110	0.04327	78.080	1166.66	173.46	174.90	1.40035	0.467	0.938	3293
-190.000	269.670	22.413	0.04462	70.383	966.52	182.97	184.46	1.43647	0.466	0.975	3062
-182.513	277.157	21.847	0.04577	64.632	821.31	190.36	191.89	1.46365	0.464	1.011	2879
-182.513	277.157	1.2218	0.9184	0.9790	110.05	335.31	362.59	2.07953	0.416	0.715	936
-180.000	279.670	1.2001	0.9332	0.9548	113.71	336.59	364.37	2.08592	0.413	0.701	946
-170.000	289.670	1.1243	0.8894	0.8743	127.24	341.51	371.16	2.10978	0.405	0.660	980
-160.000	299.670	1.0612	0.8424	0.8112	139.56	346.19	377.60	2.13167	0.399	0.532	1011
-150.000	309.670	1.0071	0.9929	0.7596	151.01	350.72	383.81	2.15205	0.395	0.511	1040
-140.000	319.670	0.9600	1.0417	0.7162	161.83	355.12	389.84	2.17122	0.392	0.596	1067
-130.000	329.670	0.9182	1.0891	0.6789	172.15	359.44	395.74	2.18939	0.390	0.584	1093
-120.000	339.670	0.8808	1.1353	0.6463	182.06	363.69	401.53	2.20669	0.389	0.575	1117
-110.000	349.670	0.8470	1.1806	0.6174	191.65	367.89	407.24	2.22325	0.387	0.567	1140
-100.000	359.670	0.8162	1.2252	0.5916	200.96	372.04	412.88	2.23914	0.387	0.561	1162
-90.000	369.670	0.7880	1.2690	0.5683	210.03	376.16	418.46	2.25445	0.386	0.556	1183
-80.000	379.670	0.7620	1.3123	0.5471	218.91	380.25	423.99	2.26923	0.386	0.552	1204
-70.000	389.670	0.7379	1.3551	0.5277	227.60	384.33	429.49	2.28353	0.386	0.548	1224
-60.000	399.670	0.7156	1.3975	0.5099	236.15	388.38	434.97	2.29739	0.387	0.546	1243
-50.000	409.670	0.6947	1.4395	0.4935	244.56	392.43	440.41	2.31086	0.387	0.544	1261
-40.000	419.670	0.6752	1.4811	0.4782	252.85	396.47	445.84	2.32395	0.388	0.542	1279
-30.000	429.670	0.6568	1.5225	0.4640	261.03	400.51	451.26	2.33671	0.389	0.541	1297
-20.000	439.670	0.6396	1.5635	0.4507	269.11	404.55	456.67	2.34915	0.390	0.541	1314
-10.000	449.670	0.6233	1.6044	0.4382	277.11	408.60	462.07	2.36131	0.392	0.540	1331
0.000	459.670	0.6079	1.6450	0.4266	285.03	412.65	467.48	2.37319	0.393	0.540	1347
10.000	469.670	0.5933	1.6854	0.4155	292.87	416.71	472.88	2.38482	0.395	0.541	1363
20.000	479.670	0.5795	1.7256	0.4051	300.65	420.78	478.29	2.39622	0.397	0.541	1378
30.000	489.670	0.5664	1.7656	0.3953	308.37	424.86	483.71	2.40741	0.399	0.542	1393
40.000	499.670	0.5539	1.8055	0.3860	316.03	428.96	489.14	2.41838	0.401	0.544	1408
50.000	509.670	0.5419	1.8452	0.3771	323.65	433.08	494.58	2.42917	0.404	0.545	1423
60.000	519.670	0.5305	1.8849	0.3687	331.21	437.22	500.04	2.43978	0.407	0.547	1437
70.000	529.670	0.5197	1.9243	0.3607	338.73	441.38	505.52	2.45022	0.409	0.549	1451
80.000	539.670	0.5092	1.9637	0.3530	346.21	445.57	511.02	2.46050	0.412	0.551	1464
100.000	559.670	0.4897	2.0421	0.3387	361.06	454.02	522.09	2.48063	0.418	0.556	1491
120.000	579.670	0.4717	2.1202	0.3256	375.78	462.58	533.25	2.50024	0.425	0.561	1516
140.000	599.670	0.4550	2.1979	0.3135	390.38	471.28	544.54	2.51938	0.432	0.567	1541
160.000	619.670	0.4395	2.2754	0.3023	404.88	480.11	555.95	2.53810	0.440	0.574	1564
180.000	639.670	0.4251	2.3526	0.2920	419.28	489.09	567.51	2.55645	0.448	0.581	1588
200.000	659.670	0.4116	2.4296	0.2823	433.61	498.23	579.21	2.57447	0.456	0.589	1610
220.000	679.670	0.3990	2.5063	0.2733	447.86	507.53	591.07	2.59218	0.465	0.597	1632
240.000	699.670	0.3872	2.5829	0.2649	462.05	517.00	603.09	2.60961	0.474	0.605	1653
280.000	739.670	0.3656	2.7356	0.2496	490.25	535.46	627.64	2.64372	0.492	0.622	1695
320.000	779.670	0.3463	2.8877	0.2360	518.25	556.64	652.90	2.67698	0.511	0.640	1735
360.000	819.670	0.3290	3.0394	0.2239	546.10	577.57	678.88	2.70948	0.530	0.659	1773
400.000	859.670	0.3134	3.1907	0.2130	573.80	599.25	705.61	2.74130	0.549	0.677	1811
440.000	899.670	0.2992	3.3417	0.2031	601.39	621.69	733.07	2.77253	0.568	0.696	1847

METHANE ISOBAR AT P = 200.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LJ/R	FT/S
-295.815	163.855	28.217	0.03544	166.633	3648.97	93.21	94.53	1.01209	0.495	0.785	5179
-290.000	169.670	27.949	0.03578	159.973	3471.55	97.57	98.89	1.03958	0.493	0.789	5076
-280.000	179.670	27.484	0.03638	149.046	3172.17	105.25	106.60	1.08513	0.494	0.802	4886
-270.000	189.670	27.009	0.03703	138.719	2880.62	113.18	114.55	1.12898	0.495	0.817	4692
-260.000	199.670	26.520	0.03771	128.936	2599.62	121.30	122.70	1.17129	0.494	0.830	4499
-250.000	209.670	26.015	0.03844	119.633	2330.76	129.59	131.01	1.21214	0.489	0.842	4310
-240.000	219.670	25.492	0.03923	110.749	2074.84	138.00	139.46	1.25161	0.483	0.853	4120
-230.000	229.670	24.947	0.04009	102.225	1831.95	146.55	148.04	1.28987	0.477	0.867	3928
-220.000	239.670	24.375	0.04103	94.006	1601.59	155.26	156.78	1.32715	0.472	0.884	3729
-210.000	249.670	23.771	0.04207	86.034	1382.84	164.17	165.73	1.36373	0.469	0.907	3520
-200.000	259.670	23.127	0.04324	78.249	1174.41	173.34	174.94	1.39989	0.467	0.936	3301
-190.000	269.670	22.434	0.04458	70.578	974.78	182.83	184.48	1.43593	0.466	0.973	3071
-180.000	279.670	21.672	0.04614	62.924	782.21	192.73	194.44	1.47220	0.463	1.021	2827
-178.041	281.629	21.512	0.04648	61.415	745.15	194.73	196.45	1.47937	0.462	1.033	2777
-178.041	281.629	1.3637	0.7333	1.1091	106.14	335.58	362.73	2.06979	0.420	0.745	934
-170.000	289.670	1.2873	0.7768	1.0236	118.14	339.76	368.52	2.09007	0.411	0.698	964
-160.000	299.670	1.2087	0.8273	0.9412	131.57	344.66	375.30	2.11307	0.404	0.660	998
-150.000	309.670	1.1429	0.8750	0.8757	143.87	349.35	381.76	2.13426	0.399	0.633	1028
-140.000	319.670	1.0861	0.9207	0.8217	155.36	353.88	387.98	2.15405	0.395	0.613	1057
-130.000	329.670	1.0364	0.9648	0.7759	166.23	358.30	394.04	2.17270	0.393	0.598	1083
-120.000	339.670	0.9923	1.0077	0.7363	176.62	362.64	399.96	2.19040	0.391	0.587	1109
-110.000	349.670	0.9528	1.0496	0.7017	186.61	366.91	405.78	2.20729	0.389	0.577	1133
-100.000	359.670	0.9169	1.0906	0.6709	196.28	371.12	411.51	2.22346	0.388	0.570	1155
-90.000	369.670	0.8842	1.1309	0.6433	205.67	375.30	417.18	2.23900	0.388	0.564	1177
-80.000	379.670	0.8542	1.1706	0.6184	214.83	379.44	422.79	2.25398	0.387	0.559	1198
-70.000	389.670	0.8266	1.2098	0.5957	223.79	383.55	428.36	2.26845	0.387	0.555	1219
-60.000	399.670	0.8009	1.2486	0.5749	232.57	387.65	433.89	2.28247	0.388	0.552	1238
-50.000	409.670	0.7770	1.2869	0.5558	241.19	391.73	439.39	2.29607	0.388	0.549	1257
-40.000	419.670	0.7548	1.3249	0.5381	249.68	395.81	444.87	2.30929	0.389	0.547	1276
-30.000	429.670	0.7339	1.3626	0.5216	258.04	399.87	450.34	2.32215	0.390	0.546	1294
-20.000	439.670	0.7143	1.4000	0.5063	266.29	403.94	455.79	2.33469	0.391	0.545	1311
-10.000	449.670	0.6958	1.4372	0.4920	274.45	408.01	461.23	2.34694	0.392	0.544	1328
0.000	459.670	0.6784	1.4741	0.4786	282.51	412.08	466.67	2.35890	0.394	0.544	1344
10.000	469.670	0.6619	1.5108	0.4660	290.49	416.16	472.11	2.37061	0.396	0.544	1360
20.000	479.670	0.6463	1.5473	0.4541	298.40	420.25	477.55	2.38207	0.398	0.545	1376
30.000	489.670	0.6315	1.5836	0.4428	306.24	424.35	483.00	2.39331	0.400	0.545	1391
40.000	499.670	0.6173	1.6198	0.4322	314.02	428.47	488.46	2.40435	0.402	0.546	1406
50.000	509.670	0.6039	1.6559	0.4221	321.74	432.60	493.93	2.41519	0.404	0.548	1421
60.000	519.670	0.5911	1.6918	0.4125	329.40	436.76	499.41	2.42584	0.407	0.549	1435
70.000	529.670	0.5789	1.7276	0.4034	337.02	440.93	504.91	2.43633	0.410	0.551	1449
80.000	539.670	0.5671	1.7632	0.3947	344.59	445.13	510.43	2.44665	0.413	0.553	1463
100.000	559.670	0.5452	1.8342	0.3785	359.61	453.61	521.54	2.46686	0.419	0.558	1490
120.000	579.670	0.5250	1.9049	0.3636	374.48	462.20	532.74	2.48653	0.425	0.563	1515
140.000	599.670	0.5063	1.9752	0.3500	389.22	470.91	544.06	2.50573	0.433	0.569	1540
160.000	619.670	0.4889	2.0452	0.3374	403.85	479.77	555.51	2.52450	0.440	0.576	1564
180.000	639.670	0.4728	2.1150	0.3257	418.37	488.76	567.09	2.54289	0.448	0.583	1587
200.000	659.670	0.4578	2.1845	0.3149	432.80	497.92	578.82	2.56095	0.457	0.590	1610
220.000	679.670	0.4437	2.2539	0.3047	447.15	507.23	590.70	2.57869	0.465	0.598	1632
240.000	699.670	0.4305	2.3230	0.2953	461.43	516.71	602.74	2.59615	0.474	0.606	1653
280.000	739.670	0.4064	2.4608	0.2781	489.79	536.20	627.33	2.63033	0.492	0.623	1695
320.000	779.670	0.3849	2.5981	0.2629	517.94	556.41	652.63	2.66362	0.511	0.641	1735
360.000	819.670	0.3656	2.7349	0.2493	545.90	577.35	678.64	2.69616	0.530	0.660	1774
400.000	859.670	0.3483	2.8714	0.2371	573.71	599.05	705.39	2.72802	0.549	0.678	1811
440.000	899.670	0.3325	3.0075	0.2260	601.40	621.50	732.88	2.75928	0.568	0.696	1848

METHANE ISOBAR AT P = 225.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-295.736	163.934	28.221	0.03543	166.587	3652.27	93.23	94.70	1.01219	0.495	0.784	5179
-290.000	169.670	27.956	0.03577	160.027	3477.46	97.52	99.01	1.03931	0.493	0.789	5078
-280.000	179.670	27.492	0.03637	149.115	3178.61	105.20	106.72	1.08485	0.494	0.802	4889
-270.000	189.670	27.017	0.03701	138.803	2887.52	113.12	114.66	1.12868	0.495	0.816	4695
-260.000	199.670	26.529	0.03769	129.033	2606.91	121.24	122.81	1.17097	0.494	0.829	4504
-250.000	209.670	26.026	0.03842	119.745	2338.42	129.51	131.11	1.21179	0.490	0.841	4314
-240.000	219.670	25.504	0.03921	110.876	2082.85	137.92	139.55	1.25123	0.483	0.852	4126
-230.000	229.670	24.960	0.04006	102.369	1840.30	146.46	148.13	1.28946	0.477	0.866	3934
-220.000	239.670	24.390	0.04100	94.168	1610.32	155.15	156.86	1.32670	0.472	0.883	3736
-210.000	249.670	23.789	0.04204	86.218	1391.99	164.05	165.80	1.36322	0.469	0.905	3528
-200.000	259.670	23.149	0.04320	78.459	1184.06	173.19	174.99	1.39932	0.468	0.934	3310
-190.000	269.670	22.459	0.04453	70.821	985.05	182.65	184.51	1.43527	0.466	0.970	3082
-180.000	279.670	21.704	0.04608	63.210	793.28	192.51	194.43	1.47141	0.463	1.017	2840
-172.882	286.788	21.110	0.04737	57.733	660.15	199.85	201.82	1.49750	0.459	1.061	2658
-172.882	286.788	1.5456	0.6470	1.2802	101.16	335.74	362.70	2.05844	0.425	0.785	931
-170.000	289.670	1.5105	0.6620	1.2388	105.96	337.34	364.92	2.06617	0.421	0.761	942
-160.000	299.670	1.4067	0.7109	1.1227	121.10	342.60	372.22	2.09094	0.411	0.703	980
-150.000	309.670	1.3224	0.7562	1.0346	134.63	347.53	379.04	2.11334	0.404	0.665	1013
-140.000	319.670	1.2515	0.7991	0.9640	147.06	352.26	385.55	2.13402	0.399	0.538	1044
-130.000	329.670	1.1903	0.8401	0.9055	158.69	356.82	391.83	2.15336	0.396	0.518	1072
-120.000	339.670	1.1367	0.8797	0.8557	169.72	361.28	397.93	2.17161	0.393	0.603	1098
-110.000	349.670	1.0891	0.9182	0.8126	180.25	365.65	403.90	2.18893	0.391	0.591	1123
-100.000	359.670	1.0462	0.9558	0.7748	190.38	369.95	409.77	2.20547	0.390	0.582	1147
-90.000	369.670	1.0074	0.9926	0.7412	200.19	374.19	415.55	2.22133	0.389	0.574	1170
-80.000	379.670	0.9720	1.0288	0.7110	209.71	378.40	421.26	2.23658	0.389	0.568	1192
-70.000	389.670	0.9395	1.0644	0.6837	219.00	382.57	426.92	2.25128	0.389	0.563	1212
-60.000	399.670	0.9095	1.0996	0.6588	228.07	386.72	432.53	2.26550	0.389	0.559	1233
-50.000	409.670	0.8815	1.1343	0.6360	236.97	390.85	438.11	2.27928	0.389	0.556	1252
-40.000	419.670	0.8557	1.1686	0.6150	245.70	394.96	443.65	2.29265	0.390	0.553	1271
-30.000	429.670	0.8315	1.2027	0.5956	254.30	399.07	449.17	2.30566	0.391	0.551	1289
-20.000	439.670	0.8088	1.2364	0.5776	262.76	403.17	454.68	2.31832	0.392	0.550	1307
-10.000	449.670	0.7875	1.2699	0.5608	271.11	407.26	460.17	2.33068	0.393	0.549	1324
0.000	459.670	0.7674	1.3031	0.5450	279.36	411.36	465.66	2.34274	0.395	0.548	1341
10.000	469.670	0.7484	1.3362	0.5303	287.52	415.47	471.14	2.35454	0.396	0.548	1357
20.000	479.670	0.7305	1.3690	0.5164	295.59	419.59	476.62	2.36609	0.398	0.548	1373
30.000	489.670	0.7134	1.4016	0.5033	303.58	423.71	482.11	2.37741	0.400	0.549	1389
40.000	499.670	0.6973	1.4341	0.4909	311.50	427.85	487.60	2.38852	0.402	0.550	1404
50.000	509.670	0.6819	1.4665	0.4792	319.35	432.01	493.11	2.39942	0.405	0.551	1419
60.000	519.670	0.6673	1.4987	0.4681	327.15	436.18	498.62	2.41014	0.407	0.552	1433
70.000	529.670	0.6533	1.5308	0.4576	334.88	440.37	504.15	2.42068	0.410	0.554	1447
80.000	539.670	0.6399	1.5627	0.4476	342.57	444.59	509.70	2.43106	0.413	0.556	1461
100.000	559.670	0.6149	1.6263	0.4289	357.80	453.10	520.86	2.45136	0.419	0.560	1488
120.000	579.670	0.5919	1.6896	0.4118	372.86	461.71	532.11	2.47111	0.426	0.565	1514
140.000	599.670	0.5706	1.7524	0.3961	387.78	470.45	543.47	2.49038	0.433	0.571	1539
160.000	619.670	0.5509	1.8150	0.3817	402.56	479.33	554.95	2.50922	0.441	0.577	1563
180.000	639.670	0.5327	1.8774	0.3683	417.23	488.35	566.57	2.52767	0.449	0.584	1587
200.000	659.670	0.5156	1.9395	0.3559	431.79	497.52	578.33	2.54577	0.457	0.592	1610
220.000	679.670	0.4996	2.0014	0.3443	446.27	506.85	590.24	2.56356	0.466	0.600	1632
240.000	699.670	0.4847	2.0631	0.3335	460.66	516.35	602.31	2.58106	0.474	0.608	1653
280.000	739.670	0.4574	2.1861	0.3139	489.23	535.87	626.95	2.61530	0.493	0.625	1695
320.000	779.670	0.4332	2.3085	0.2966	517.55	556.11	652.29	2.64866	0.512	0.642	1735
360.000	819.670	0.4114	2.4305	0.2812	545.46	577.08	678.34	2.68124	0.531	0.660	1774
400.000	859.670	0.3918	2.5520	0.2673	573.61	598.80	705.13	2.71315	0.550	0.679	1812
440.000	899.670	0.3741	2.6733	0.2548	601.40	621.27	732.65	2.74443	0.569	0.697	1848

METHANE ISOBAR AT P = 250.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	F BTU/LF	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-295.657	164.013	28.224	0.03543	166.542	3655.56	93.24	94.88	1.01230	0.495	0.784	5180
-290.000	169.670	27.963	0.03576	160.082	3483.34	97.48	99.13	1.03904	0.493	0.789	5080
-280.000	179.670	27.500	0.03636	149.184	3185.03	105.15	106.83	1.08456	0.494	0.802	4892
-270.000	189.670	27.026	0.03700	138.886	2894.40	113.06	114.78	1.12837	0.496	0.816	4699
-260.000	199.670	26.539	0.03768	129.131	2614.19	121.17	122.92	1.17064	0.494	0.829	4508
-250.000	209.670	26.037	0.03841	119.856	2346.06	129.44	131.22	1.21144	0.490	0.840	4319
-240.000	219.670	25.516	0.03919	111.002	2090.84	137.84	139.65	1.25085	0.483	0.852	4131
-230.000	229.670	24.974	0.04004	102.512	1848.64	146.37	148.22	1.28904	0.477	0.865	3940
-220.000	239.670	24.406	0.04097	94.330	1619.02	155.05	156.94	1.32624	0.472	0.882	3742
-210.000	249.670	23.807	0.04201	86.401	1401.11	163.92	165.87	1.36272	0.469	0.904	3536
-200.000	259.670	23.170	0.04316	78.667	1193.66	173.04	175.04	1.39875	0.468	0.932	3319
-190.000	269.670	22.484	0.04448	71.060	995.26	182.48	184.54	1.43461	0.467	0.968	3093
-180.000	279.670	21.735	0.04601	63.492	804.28	192.30	194.43	1.47063	0.463	1.013	2854
-170.000	289.670	20.893	0.04786	55.826	618.89	202.64	204.85	1.50725	0.457	1.076	2597
-168.119	291.551	20.721	0.04826	54.355	584.46	204.66	206.89	1.51426	0.456	1.092	2546
-168.119	291.551	1.7329	0.5771	1.4616	96.09	335.72	362.44	2.04777	0.430	0.930	927
-160.000	299.670	1.6231	0.5161	1.3311	109.98	340.34	368.86	2.06950	0.419	0.758	960
-150.000	309.670	1.5150	0.6601	1.2118	125.00	345.59	376.15	2.09342	0.410	0.703	997
-140.000	319.670	1.4266	0.7010	1.1199	138.51	350.53	382.98	2.11516	0.404	0.567	1030
-130.000	329.670	1.3518	0.7398	1.0455	150.99	355.27	389.52	2.13529	0.399	0.541	1060
-120.000	339.670	1.2872	0.7769	0.9834	162.70	359.86	395.83	2.15415	0.396	0.522	1088
-110.000	349.670	1.2303	0.8128	0.9304	173.80	364.34	401.97	2.17197	0.394	0.507	1114
-100.000	359.670	1.1796	0.8477	0.8844	184.43	368.74	407.98	2.18892	0.392	0.595	1139
-90.000	369.670	1.1341	0.8818	0.8438	194.66	373.06	413.88	2.20511	0.391	0.586	1162
-80.000	379.670	1.0927	0.9152	0.8077	204.57	377.34	419.70	2.22064	0.390	0.578	1185
-70.000	389.670	1.0549	0.9480	0.7753	214.19	381.57	425.45	2.23559	0.390	0.572	1206
-60.000	399.670	1.0202	0.9802	0.7459	223.57	385.77	431.15	2.25002	0.390	0.567	1227
-50.000	409.670	0.9881	1.0121	0.7190	232.74	389.95	436.80	2.26398	0.390	0.563	1247
-40.000	419.670	0.9583	1.0435	0.6945	241.73	394.10	442.41	2.27752	0.391	0.560	1266
-30.000	429.670	0.9305	1.0747	0.6718	250.56	398.25	448.00	2.29067	0.392	0.557	1285
-20.000	439.670	0.9046	1.1055	0.6508	259.24	402.38	453.56	2.30347	0.393	0.555	1303
-10.000	449.670	0.8803	1.1360	0.6313	267.79	406.51	459.10	2.31594	0.394	0.554	1321
0.000	459.670	0.8574	1.1663	0.6131	276.22	410.64	464.64	2.32811	0.395	0.553	1338
10.000	469.670	0.8353	1.1964	0.5960	284.55	414.78	470.16	2.34001	0.397	0.552	1354
20.000	479.670	0.8154	1.2263	0.5801	292.78	418.92	475.69	2.35164	0.399	0.552	1371
30.000	489.670	0.7962	1.2560	0.5650	300.92	423.07	481.21	2.36304	0.401	0.553	1386
40.000	499.670	0.7773	1.2856	0.5508	308.99	427.23	486.74	2.37422	0.403	0.553	1402
50.000	509.670	0.7605	1.3150	0.5374	316.98	431.40	492.28	2.38519	0.405	0.554	1417
60.000	519.670	0.7439	1.3442	0.5247	324.90	435.60	497.83	2.39597	0.408	0.555	1431
70.000	529.670	0.7282	1.3733	0.5127	332.75	439.81	503.39	2.40657	0.411	0.557	1446
80.000	539.670	0.7131	1.4023	0.5012	340.55	444.04	508.96	2.41700	0.413	0.558	1460
100.000	559.670	0.6849	1.4600	0.4799	356.00	452.58	520.17	2.43739	0.420	0.563	1487
120.000	579.670	0.6591	1.5173	0.4605	371.25	461.23	531.47	2.45723	0.426	0.567	1513
140.000	599.670	0.6352	1.5743	0.4428	386.34	469.99	542.87	2.47657	0.433	0.573	1538
160.000	619.670	0.6132	1.6309	0.4264	401.28	478.89	554.39	2.49547	0.441	0.579	1563
180.000	639.670	0.5927	1.5873	0.4113	416.09	487.94	566.05	2.51397	0.449	0.586	1586
200.000	659.670	0.5736	1.7435	0.3973	430.79	497.13	577.84	2.53213	0.457	0.593	1609
220.000	679.670	0.5557	1.7995	0.3842	445.39	506.48	589.78	2.54996	0.465	0.601	1632
240.000	699.670	0.5390	1.8552	0.3721	459.90	516.00	601.88	2.56750	0.475	0.609	1653
280.000	739.670	0.5086	1.9663	0.3500	488.66	535.54	626.57	2.60182	0.493	0.626	1695
320.000	779.670	0.4815	2.0768	0.3306	517.16	555.81	651.95	2.63523	0.512	0.643	1736
360.000	819.670	0.4573	2.1869	0.3132	545.43	576.81	678.05	2.66787	0.531	0.661	1774
400.000	859.670	0.4354	2.2966	0.2977	573.50	598.55	704.87	2.69981	0.550	0.680	1812
440.000	899.670	0.4156	2.4059	0.2837	601.42	621.04	732.42	2.73113	0.569	0.698	1849

METHANE ISOBAR AT P = 275.0 PSI

T	T	DEN	VOL	OP/DT	OP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-295.577	164.093	28.228	0.03543	166.497	3658.84	93.26	95.06	1.01241	0.495	0.784	5181
-290.000	169.670	27.971	0.03575	160.136	3489.22	97.43	99.25	1.03877	0.493	0.789	5083
-280.000	179.670	27.507	0.03635	149.253	3191.44	105.10	106.95	1.08427	0.495	0.801	4895
-270.000	189.670	27.034	0.03699	138.969	2901.27	113.01	114.89	1.12807	0.496	0.816	4702
-260.000	199.670	26.549	0.03767	129.227	2621.46	121.11	123.03	1.17032	0.494	0.829	4512
-250.000	209.670	26.047	0.03839	119.967	2353.69	129.37	131.32	1.21109	0.490	0.840	4323
-240.000	219.670	25.528	0.03917	111.128	2098.81	137.76	139.75	1.25047	0.484	0.851	4136
-230.000	229.670	24.987	0.04002	102.654	1856.95	146.27	148.31	1.28863	0.477	0.864	3946
-220.000	239.670	24.421	0.04095	94.490	1627.70	154.94	157.02	1.32579	0.472	0.881	3749
-210.000	249.670	23.824	0.04197	86.582	1410.19	163.80	165.93	1.36221	0.470	0.903	3544
-200.000	259.670	23.190	0.04312	78.873	1203.23	172.90	175.09	1.39818	0.468	0.930	3329
-190.000	269.670	22.509	0.04443	71.298	1005.41	182.30	184.57	1.43396	0.467	0.965	3103
-180.000	279.670	21.766	0.04594	63.771	815.19	192.09	194.43	1.46986	0.464	1.009	2867
-170.000	289.670	20.933	0.04777	56.164	630.82	202.37	204.80	1.50630	0.457	1.170	2614
-163.686	295.984	20.341	0.04916	51.224	516.49	209.22	211.72	1.52992	0.452	1.125	2440
-163.686	295.984	1.9265	0.5191	1.6541	90.95	335.55	361.98	2.03761	0.435	0.880	923
-160.000	299.670	1.8636	0.5366	1.5755	97.99	337.81	365.14	2.04820	0.429	0.834	939
-150.000	309.670	1.7235	0.5802	1.4118	114.88	343.48	373.03	2.07410	0.416	0.751	980
-140.000	319.670	1.6130	0.5200	1.2916	129.67	348.70	380.27	2.09713	0.409	0.701	1015
-130.000	329.670	1.5218	0.6571	1.1974	143.10	353.64	387.11	2.11818	0.403	0.567	1048
-120.000	339.670	1.4443	0.5924	1.1204	155.56	358.39	393.65	2.13773	0.399	0.543	1077
-110.000	349.670	1.3769	0.7263	1.0556	167.28	362.99	399.98	2.15610	0.396	0.524	1104
-100.000	359.670	1.3174	0.7590	1.0001	178.43	367.49	406.14	2.17348	0.394	0.510	1130
-90.000	369.670	1.2644	0.7909	0.9516	189.11	371.90	412.18	2.19004	0.393	0.598	1155
-80.000	379.670	1.2165	0.8220	0.9088	199.41	376.25	418.11	2.20587	0.392	0.589	1178
-70.000	389.670	1.1730	0.8525	0.8706	209.38	380.55	423.96	2.22108	0.392	0.581	1200
-60.000	399.670	1.1331	0.8825	0.8362	219.07	384.80	429.74	2.23574	0.391	0.575	1221
-50.000	409.670	1.0965	0.9120	0.8049	228.52	389.03	435.47	2.24989	0.392	0.570	1242
-40.000	419.670	1.0625	0.9411	0.7764	237.77	393.23	441.16	2.26360	0.392	0.566	1262
-30.000	429.670	1.0310	0.9699	0.7502	246.83	397.42	446.81	2.27690	0.393	0.563	1281
-20.000	439.670	1.0017	0.9983	0.7260	255.72	401.59	452.43	2.28983	0.394	0.561	1299
-10.000	449.670	0.9742	1.0265	0.7036	264.47	405.75	458.02	2.30243	0.395	0.559	1317
0.000	459.670	0.9484	1.0544	0.6828	273.09	409.91	463.61	2.31471	0.396	0.558	1335
10.000	469.670	0.9241	1.0821	0.6633	281.59	414.08	469.18	2.32670	0.398	0.557	1352
20.000	479.670	0.9012	1.1096	0.6451	289.99	418.24	474.75	2.33842	0.400	0.556	1368
30.000	489.670	0.8796	1.1369	0.6280	298.28	422.42	480.31	2.34990	0.401	0.556	1384
40.000	499.670	0.8591	1.1640	0.6119	306.49	426.60	485.88	2.36116	0.404	0.557	1400
50.000	509.670	0.8396	1.1910	0.5967	314.61	430.80	491.45	2.37220	0.406	0.557	1415
60.000	519.670	0.8211	1.2178	0.5823	322.66	435.01	497.03	2.38304	0.408	0.558	1430
70.000	529.670	0.8035	1.2445	0.5687	330.64	439.24	502.62	2.39369	0.411	0.560	1444
80.000	539.670	0.7867	1.2711	0.5558	338.55	443.49	508.22	2.40418	0.414	0.561	1458
100.000	559.670	0.7553	1.3239	0.5317	354.20	452.06	519.48	2.42467	0.420	0.565	1486
120.000	579.670	0.7266	1.3764	0.5099	369.64	460.74	530.83	2.44458	0.427	0.570	1512
140.000	599.670	0.7001	1.4285	0.4900	384.90	469.53	542.28	2.46400	0.434	0.575	1538
160.000	619.670	0.6756	1.4803	0.4716	400.01	478.46	553.84	2.48296	0.441	0.581	1562
180.000	639.670	0.6528	1.5318	0.4547	414.96	487.52	565.53	2.50153	0.449	0.588	1586
200.000	659.670	0.6317	1.5831	0.4390	429.80	496.73	577.35	2.51973	0.458	0.595	1609
220.000	679.670	0.6119	1.6342	0.4245	444.52	506.10	589.32	2.53761	0.466	0.602	1631
240.000	699.670	0.5934	1.6851	0.4109	459.14	515.64	601.45	2.55519	0.475	0.610	1653
260.000	739.670	0.5598	1.7865	0.3864	488.11	535.22	626.19	2.58958	0.493	0.627	1695
320.000	779.670	0.5299	1.8873	0.3647	516.78	555.51	651.62	2.62305	0.512	0.644	1736
360.000	819.670	0.5031	1.9876	0.3455	545.19	576.53	677.75	2.65573	0.531	0.662	1775
400.000	859.670	0.4790	2.0876	0.3282	573.40	598.30	704.60	2.68772	0.550	0.680	1813
440.000	899.670	0.4572	2.1872	0.3127	601.43	620.81	732.18	2.71907	0.569	0.699	1850

METHANE ISOBAR AT P = 300.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-295.498	164.172	28.231	0.03542	166.452	3662.12	93.27	95.24	1.01252	0.495	0.784	5182
-290.000	169.670	27.978	0.03574	160.190	3495.08	97.39	99.37	1.03849	0.494	0.788	5085
-280.000	179.670	27.515	0.03634	149.321	3197.83	105.05	107.07	1.08399	0.495	0.801	4898
-270.000	189.670	27.043	0.03698	139.051	2908.12	112.95	115.00	1.12777	0.496	0.815	4706
-260.000	199.670	26.558	0.03765	129.323	2628.71	121.05	123.14	1.16999	0.495	0.828	4516
-250.000	209.670	26.058	0.03838	120.077	2361.30	129.30	131.43	1.21074	0.490	0.839	4328
-240.000	219.670	25.540	0.03915	111.254	2106.76	137.67	139.85	1.25010	0.484	0.850	4141
-230.000	229.670	25.001	0.04000	102.796	1865.24	146.18	148.40	1.28822	0.478	0.863	3952
-220.000	239.670	24.436	0.04092	94.650	1636.34	154.83	157.11	1.32534	0.473	0.880	3756
-210.000	249.670	23.842	0.04194	86.762	1419.24	163.67	166.00	1.36171	0.470	0.901	3552
-200.000	259.670	23.211	0.04308	79.078	1212.75	172.75	175.15	1.39762	0.468	0.929	3338
-190.000	269.670	22.534	0.04438	71.533	1015.51	182.13	184.60	1.43332	0.467	0.962	3114
-180.000	279.670	21.796	0.04588	64.046	826.02	191.88	194.43	1.46910	0.464	1.005	2880
-170.000	289.670	20.973	0.04768	56.497	642.64	202.10	204.75	1.50537	0.458	1.063	2630
-160.000	299.670	20.016	0.04996	48.673	463.37	213.03	215.81	1.54288	0.449	1.157	2352
-159.535	300.135	19.967	0.05008	48.296	455.08	213.57	216.35	1.54468	0.449	1.163	2338
-159.535	300.135	2.1271	0.4701	1.8590	85.74	335.24	361.36	2.02783	0.441	0.936	918
-150.000	309.670	1.9518	0.5123	1.6410	104.15	341.17	369.63	2.05498	0.424	0.814	962
-140.000	319.670	1.8129	0.5516	1.4826	120.48	346.74	377.38	2.07962	0.414	0.743	1001
-130.000	329.670	1.7017	0.5877	1.3630	135.00	351.92	384.57	2.10176	0.407	0.697	1035
-120.000	339.670	1.6088	0.6216	1.2677	148.29	356.85	391.38	2.12211	0.403	0.666	1066
-110.000	349.670	1.5294	0.6539	1.1890	160.68	361.55	397.92	2.14109	0.399	0.643	1095
-100.000	359.670	1.4600	0.6849	1.1224	172.38	366.20	404.25	2.15895	0.397	0.625	1122
-90.000	369.670	1.3985	0.7150	1.0649	183.53	370.71	410.43	2.17590	0.395	0.611	1147
-80.000	379.670	1.3435	0.7443	1.0146	194.23	375.14	416.49	2.19206	0.394	0.600	1171
-70.000	389.670	1.2938	0.7729	0.9699	204.56	379.50	422.44	2.20754	0.393	0.591	1194
-60.000	399.670	1.2484	0.8010	0.9299	214.57	383.82	428.32	2.22243	0.393	0.584	1216
-50.000	409.670	1.2063	0.8286	0.8938	224.31	388.10	434.13	2.23679	0.393	0.578	1237
-40.000	419.670	1.1686	0.8557	0.8610	233.82	392.35	439.89	2.25068	0.393	0.573	1257
-30.000	429.670	1.1331	0.8825	0.8310	243.11	396.58	445.60	2.26414	0.394	0.570	1277
-20.000	439.670	1.1001	0.9090	0.8034	252.23	400.79	451.28	2.27721	0.394	0.567	1296
-10.000	449.670	1.0693	0.9352	0.7779	261.18	404.99	456.94	2.28992	0.396	0.564	1314
0.000	459.670	1.0405	0.9611	0.7542	269.98	409.18	462.57	2.30231	0.397	0.563	1332
10.000	469.670	1.0134	0.9868	0.7321	278.66	413.37	468.19	2.31441	0.398	0.561	1349
20.000	479.670	0.9879	1.0123	0.7115	287.21	417.56	473.80	2.32622	0.400	0.561	1365
30.000	489.670	0.9638	1.0376	0.6922	295.66	421.76	479.40	2.33779	0.402	0.560	1382
40.000	499.670	0.9410	1.0627	0.6741	304.01	425.97	485.00	2.34911	0.404	0.560	1397
50.000	509.670	0.9194	1.0877	0.6570	312.26	430.19	490.61	2.36022	0.407	0.561	1413
60.000	519.670	0.8989	1.1125	0.6409	320.44	434.42	496.22	2.37113	0.409	0.562	1428
70.000	529.670	0.8794	1.1372	0.6256	328.54	438.67	501.84	2.38184	0.412	0.563	1442
80.000	539.670	0.8608	1.1617	0.6111	336.56	442.94	507.48	2.39238	0.414	0.564	1457
100.000	559.670	0.8261	1.2105	0.5843	352.42	451.55	518.79	2.41296	0.420	0.568	1485
120.000	579.670	0.7943	1.2589	0.5599	368.05	460.25	530.19	2.43297	0.427	0.572	1511
140.000	599.670	0.7651	1.3070	0.5377	383.49	469.07	541.68	2.45246	0.434	0.577	1537
160.000	619.670	0.7381	1.3547	0.5173	398.74	478.02	553.28	2.47149	0.442	0.583	1562
180.000	639.670	0.7131	1.4022	0.4985	413.85	487.11	565.00	2.49011	0.450	0.590	1586
200.000	659.670	0.6899	1.4495	0.4812	428.81	496.34	576.86	2.50836	0.458	0.596	1609
220.000	679.670	0.6682	1.4965	0.4651	443.65	505.73	588.87	2.52629	0.466	0.604	1631
240.000	699.670	0.6479	1.5434	0.4501	458.38	515.28	601.02	2.54391	0.475	0.612	1653
280.000	739.670	0.6110	1.5367	0.4229	487.56	534.89	625.81	2.57837	0.494	0.628	1696
320.000	779.670	0.5783	1.7293	0.3990	516.40	555.21	651.28	2.61190	0.512	0.645	1736
360.000	819.670	0.5490	1.8216	0.3778	544.97	576.26	677.45	2.64463	0.531	0.663	1775
400.000	859.670	0.5226	1.9134	0.3589	573.30	598.05	704.34	2.67665	0.550	0.681	1813
440.000	899.670	0.4988	2.0049	0.3418	601.45	620.58	731.95	2.70804	0.569	0.699	1850

METHANE ISOBAR AT P = 325.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-295.419	164.251	28.234	0.03542	166.407	3665.39	93.29	95.42	1.01262	0.496	0.784	5183
-290.000	169.670	27.985	0.03573	160.243	3500.92	97.34	99.49	1.03822	0.494	0.788	5088
-280.000	179.670	27.523	0.03633	149.389	3204.21	105.00	107.18	1.08370	0.495	0.801	4901
-270.000	189.670	27.052	0.03697	139.133	2914.95	112.89	115.12	1.12746	0.496	0.815	4709
-260.000	199.670	26.568	0.03764	129.419	2635.94	120.98	123.25	1.16967	0.495	0.828	4520
-250.000	209.670	26.069	0.03836	120.187	2368.90	129.22	131.53	1.21040	0.490	0.839	4333
-240.000	219.670	25.552	0.03914	111.379	2114.69	137.59	139.95	1.24972	0.484	0.850	4146
-230.000	229.670	25.014	0.03998	102.937	1873.51	146.09	148.49	1.28782	0.478	0.862	3958
-220.000	239.670	24.452	0.04090	94.808	1644.97	154.73	157.19	1.32489	0.473	0.879	3763
-210.000	249.670	23.860	0.04191	86.941	1428.25	163.55	166.07	1.36122	0.470	0.900	3559
-200.000	259.670	23.232	0.04304	79.281	1222.23	172.61	175.20	1.39706	0.469	0.927	3347
-190.000	269.670	22.559	0.04433	71.766	1025.55	181.96	184.63	1.43268	0.467	0.960	3125
-180.000	279.670	21.826	0.04582	64.318	836.77	191.67	194.43	1.46835	0.464	1.001	2893
-170.000	289.670	21.011	0.04759	56.824	654.34	201.84	204.71	1.50445	0.458	1.057	2646
-160.000	299.670	20.069	0.04983	49.088	476.43	212.68	215.68	1.54168	0.449	1.146	2373
-155.626	304.044	19.596	0.05103	45.537	399.36	217.75	220.82	1.55870	0.446	1.207	2239
-155.626	304.044	2.3355	0.4282	2.0776	80.45	334.79	360.56	2.01831	0.447	1.000	914
-150.000	309.670	2.2060	0.4533	1.9094	92.58	338.59	365.87	2.03564	0.434	0.998	942
-140.000	319.670	2.0291	0.4928	1.6971	110.86	344.62	374.28	2.06238	0.421	0.794	985
-130.000	329.670	1.8928	0.5283	1.5447	126.65	350.10	381.89	2.08583	0.412	0.733	1022
-120.000	339.670	1.7818	0.5612	1.4269	140.87	355.24	389.01	2.10709	0.406	0.693	1055
-110.000	349.670	1.6883	0.5923	1.3315	153.99	360.14	395.79	2.12675	0.402	0.564	1085
-100.000	359.670	1.6076	0.6220	1.2520	166.28	364.87	402.31	2.14515	0.399	0.542	1113
-90.000	369.670	1.5369	0.6507	1.1842	177.92	369.49	408.64	2.16252	0.397	0.525	1140
-80.000	379.670	1.4740	0.6784	1.1252	189.05	374.00	414.83	2.17903	0.396	0.512	1164
-70.000	389.670	1.4174	0.7055	1.0734	199.75	378.44	420.90	2.19481	0.395	0.602	1188
-60.000	399.670	1.3662	0.7320	1.0273	210.09	382.82	426.87	2.20994	0.394	0.593	1211
-50.000	409.670	1.3194	0.7579	0.9858	220.12	387.15	432.77	2.22452	0.394	0.586	1232
-40.000	419.670	1.2764	0.7834	0.9483	229.89	391.45	438.60	2.23859	0.394	0.581	1253
-30.000	429.670	1.2367	0.8086	0.9142	239.42	395.72	444.39	2.25221	0.395	0.576	1273
-20.000	439.670	1.1999	0.8334	0.8829	248.76	399.97	450.13	2.26542	0.395	0.573	1292
-10.000	449.670	1.1656	0.8579	0.8540	257.91	404.21	455.84	2.27826	0.396	0.570	1310
0.000	459.670	1.1336	0.8821	0.8273	266.90	408.44	461.52	2.29077	0.398	0.567	1328
10.000	469.670	1.1036	0.9061	0.8025	275.75	412.66	467.19	2.30296	0.399	0.566	1346
20.000	479.670	1.0753	0.9299	0.7794	284.46	416.88	472.84	2.31487	0.401	0.565	1363
30.000	489.670	1.0487	0.9535	0.7578	293.06	421.10	478.49	2.32652	0.403	0.564	1379
40.000	499.670	1.0236	0.9770	0.7375	301.55	425.33	484.13	2.33792	0.405	0.564	1395
50.000	509.670	0.9998	1.0002	0.7184	309.94	429.58	489.77	2.34910	0.407	0.564	1411
60.000	519.670	0.9772	1.0233	0.7004	318.24	433.83	495.42	2.36007	0.410	0.565	1426
70.000	529.670	0.9557	1.0463	0.6834	326.46	438.10	501.07	2.37085	0.412	0.566	1441
80.000	539.670	0.9353	1.0692	0.6673	334.59	442.39	506.73	2.38144	0.415	0.567	1455
100.000	559.670	0.8972	1.1146	0.6375	350.66	451.03	518.10	2.40212	0.421	0.570	1483
120.000	579.670	0.8624	1.1596	0.6106	366.48	459.76	529.54	2.42221	0.427	0.574	1510
140.000	599.670	0.8304	1.2042	0.5860	382.08	468.61	541.08	2.44177	0.435	0.579	1536
160.000	619.670	0.8009	1.2485	0.5635	397.50	477.58	552.72	2.46087	0.442	0.585	1561
180.000	639.670	0.7736	1.2926	0.5428	412.74	486.69	564.48	2.47955	0.450	0.591	1585
200.000	659.670	0.7483	1.3364	0.5237	427.84	495.94	576.37	2.49785	0.458	0.598	1608
220.000	679.670	0.7246	1.3801	0.5060	442.80	505.35	588.41	2.51583	0.467	0.605	1631
240.000	699.670	0.7025	1.4235	0.4895	457.64	514.92	600.59	2.53349	0.476	0.613	1653
280.000	739.670	0.6623	1.5099	0.4598	487.01	534.57	625.43	2.56802	0.484	0.629	1696
320.000	779.670	0.6267	1.5957	0.4336	516.03	554.92	650.95	2.60161	0.513	0.646	1737
360.000	819.670	0.5949	1.6811	0.4104	544.74	575.99	677.16	2.63438	0.532	0.664	1776
400.000	859.670	0.5662	1.7660	0.3896	573.21	597.80	704.08	2.66645	0.551	0.682	1814
440.000	899.670	0.5403	1.8507	0.3710	601.47	620.34	731.72	2.69788	0.569	0.700	1851

METHANE ISOBAR AT P = 350.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LP	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-295.340	164.330	28.238	0.03541	166.362	3668.66	93.30	95.60	1.01273	0.496	0.784	5184
-290.000	169.670	27.992	0.03572	160.297	3506.75	97.30	99.61	1.03795	0.494	0.788	5090
-280.000	179.670	27.531	0.03632	149.457	3210.58	104.95	107.30	1.08342	0.495	0.801	4904
-270.000	189.670	27.060	0.03695	139.215	2921.77	112.84	115.23	1.12716	0.497	0.815	4713
-260.000	199.670	26.577	0.03763	129.515	2643.16	120.92	123.36	1.16935	0.495	0.827	4524
-250.000	209.670	26.079	0.03834	120.297	2376.47	129.15	131.64	1.21005	0.491	0.838	4337
-240.000	219.670	25.564	0.03912	111.503	2122.61	137.51	140.05	1.24935	0.484	0.849	4152
-230.000	229.670	25.027	0.03996	103.077	1881.76	146.00	148.59	1.28741	0.478	0.861	3963
-220.000	239.670	24.467	0.04087	94.966	1653.56	154.62	157.27	1.32445	0.473	0.877	3769
-210.000	249.670	23.877	0.04188	87.119	1437.24	163.43	166.15	1.36072	0.470	0.898	3567
-200.000	259.670	23.252	0.04301	79.482	1231.66	172.47	175.26	1.39650	0.469	0.925	3356
-190.000	269.670	22.583	0.04428	71.996	1035.54	181.79	184.66	1.43205	0.467	0.957	3135
-180.000	279.670	21.856	0.04575	64.586	847.45	191.47	194.43	1.46761	0.464	0.998	2905
-170.000	289.670	21.049	0.04751	57.145	665.93	201.59	204.67	1.50354	0.458	1.051	2662
-160.000	299.670	20.121	0.04970	49.494	489.31	212.34	215.56	1.54051	0.449	1.135	2394
-151.929	307.741	19.225	0.05202	42.920	348.63	221.79	225.16	1.57213	0.443	1.258	2141
-151.929	307.741	2.5528	0.3917	2.3115	75.09	334.20	359.59	2.00896	0.453	1.075	909
-150.000	309.670	2.4962	0.4006	2.2343	79.81	335.65	361.61	2.01551	0.447	1.023	920
-140.000	319.670	2.2655	0.4414	1.9415	100.68	342.31	373.92	2.04510	0.428	0.950	968
-130.000	329.670	2.0972	0.4768	1.7455	118.01	348.16	379.06	2.07018	0.417	0.776	1008
-120.000	339.670	1.9642	0.5091	1.5995	133.28	353.54	386.53	2.09252	0.410	0.723	1043
-110.000	349.670	1.8543	0.5393	1.4841	147.20	358.62	393.58	2.11295	0.405	0.687	1075
-100.000	359.670	1.7608	0.5679	1.3895	160.12	363.50	400.31	2.13193	0.402	0.561	1105
-90.000	369.670	1.6797	0.5954	1.3097	172.29	368.22	406.81	2.14977	0.399	0.541	1132
-80.000	379.670	1.6081	0.6219	1.2412	183.86	372.83	413.14	2.16665	0.397	0.525	1158
-70.000	389.670	1.5441	0.6476	1.1813	194.94	377.35	419.32	2.18274	0.396	0.613	1182
-60.000	399.670	1.4865	0.6727	1.1284	205.61	381.80	425.40	2.19814	0.395	0.603	1205
-50.000	409.670	1.4341	0.6973	1.0811	215.94	386.19	431.39	2.21293	0.395	0.595	1227
-40.000	419.670	1.3861	0.7215	1.0385	225.98	390.54	437.30	2.22720	0.395	0.588	1248
-30.000	429.670	1.3420	0.7452	0.9998	235.75	394.86	443.16	2.24098	0.396	0.583	1269
-20.000	439.670	1.3011	0.7686	0.9645	245.31	399.15	448.96	2.25435	0.396	0.579	1288
-10.000	449.670	1.2632	0.7916	0.9321	254.66	403.43	454.73	2.26732	0.397	0.575	1307
0.000	459.670	1.2278	0.8145	0.9022	263.84	407.69	460.47	2.27994	0.398	0.573	1325
10.000	469.670	1.1947	0.8370	0.8745	272.86	411.94	466.19	2.29224	0.400	0.571	1343
20.000	479.670	1.1636	0.8594	0.8487	281.74	416.19	471.88	2.30425	0.401	0.569	1360
30.000	489.670	1.1344	0.8815	0.8246	290.49	420.44	477.57	2.31598	0.403	0.568	1377
40.000	499.670	1.1068	0.9035	0.8020	299.12	424.70	483.25	2.32746	0.405	0.568	1393
50.000	509.670	1.0807	0.9253	0.7809	307.64	428.96	488.93	2.33871	0.408	0.568	1409
60.000	519.670	1.0560	0.9470	0.7610	316.07	433.24	494.61	2.34975	0.410	0.568	1424
70.000	529.670	1.0325	0.9685	0.7421	324.40	437.52	500.29	2.36058	0.413	0.569	1439
80.000	539.670	1.0102	0.9899	0.7244	332.65	441.83	505.99	2.37123	0.415	0.570	1454
100.000	559.670	0.9687	1.0323	0.6915	348.92	450.50	517.41	2.39202	0.421	0.573	1482
120.000	579.670	0.9308	1.0744	0.6619	364.93	459.27	528.90	2.41219	0.428	0.577	1509
140.000	599.670	0.8960	1.1161	0.6349	380.70	468.14	540.48	2.43183	0.435	0.581	1535
160.000	619.670	0.8639	1.1575	0.6102	396.26	477.14	552.16	2.45099	0.442	0.587	1561
180.000	639.670	0.8343	1.1986	0.5875	411.65	486.27	563.96	2.46972	0.450	0.593	1585
200.000	659.670	0.8068	1.2395	0.5666	426.88	495.55	575.88	2.48808	0.459	0.590	1608
220.000	679.670	0.7811	1.2802	0.5472	441.96	504.98	587.95	2.50610	0.467	0.607	1631
240.000	699.670	0.7572	1.3207	0.5293	456.91	514.56	600.16	2.52381	0.476	0.614	1653
280.000	739.670	0.7137	1.4012	0.4968	486.48	534.24	625.05	2.55840	0.494	0.530	1696
320.000	779.670	0.6752	1.4811	0.4683	515.66	554.62	650.61	2.59205	0.513	0.647	1737
360.000	819.670	0.6403	1.5606	0.4431	544.53	575.71	676.86	2.62488	0.532	0.665	1776
400.000	859.670	0.6099	1.6397	0.4206	573.13	597.55	703.82	2.65699	0.551	0.683	1814
440.000	899.670	0.5819	1.7185	0.4003	601.50	620.11	731.49	2.68845	0.570	0.701	1851

METHANE ISOBAR AT P = 375.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	F BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-295.260	164.410	28.241	0.03541	166.317	3671.92	93.31	95.77	1.01284	0.496	0.783	5184
-290.000	169.670	27.999	0.03572	160.350	3512.56	97.25	99.73	1.03768	0.494	0.788	5092
-280.000	179.670	27.539	0.03631	149.525	3216.93	104.90	107.42	1.08313	0.495	0.800	4907
-270.000	189.670	27.069	0.03694	139.296	2928.58	112.78	115.35	1.12686	0.497	0.814	4716
-260.000	199.670	26.587	0.03761	129.610	2650.37	120.86	123.47	1.16903	0.495	0.827	4528
-250.000	209.670	26.090	0.03833	120.406	2384.03	129.08	131.74	1.20971	0.491	0.838	4342
-240.000	219.670	25.575	0.03910	111.626	2130.50	137.43	140.15	1.24898	0.485	0.848	4157
-230.000	229.670	25.041	0.03993	103.216	1889.98	145.90	148.68	1.28701	0.478	0.861	3969
-220.000	239.670	24.482	0.04085	95.122	1662.13	154.52	157.35	1.32401	0.473	0.876	3776
-210.000	249.670	23.894	0.04185	87.295	1446.19	163.31	166.22	1.36023	0.470	0.897	3575
-200.000	259.670	23.272	0.04297	79.682	1241.06	172.33	175.31	1.39595	0.469	0.923	3364
-190.000	269.670	22.607	0.04423	72.224	1045.48	181.63	184.70	1.43142	0.468	0.955	3146
-180.000	279.670	21.885	0.04569	64.851	858.06	191.27	194.44	1.46687	0.464	0.994	2918
-170.000	289.670	21.086	0.04742	57.462	677.41	201.33	204.63	1.50265	0.458	1.046	2678
-160.000	299.670	20.172	0.04957	49.889	502.02	212.00	215.45	1.53937	0.449	1.125	2414
-150.000	309.670	19.058	0.05247	41.795	329.64	223.72	227.36	1.57847	0.442	1.279	2102
-148.418	311.252	18.852	0.05304	40.422	302.37	225.72	229.40	1.58499	0.448	1.325	2035
-148.418	311.252	2.7802	0.3597	2.5627	69.65	333.49	358.46	1.99970	0.459	1.162	904
-140.000	319.670	2.5282	0.3955	2.2254	89.77	339.75	367.22	2.02746	0.437	0.948	950
-130.000	329.670	2.3175	0.4315	1.9694	108.98	346.07	376.03	2.05462	0.423	0.828	994
-120.000	339.670	2.1574	0.4635	1.7877	125.49	351.75	383.94	2.07825	0.414	0.759	1032
-110.000	349.670	2.0283	0.4930	1.6480	140.28	357.04	391.28	2.09956	0.408	0.713	1065
-100.000	359.670	1.9201	0.5208	1.5356	153.89	362.08	398.24	2.11920	0.404	0.681	1096
-90.000	369.670	1.8272	0.5473	1.4422	166.62	366.93	404.93	2.13754	0.401	0.657	1124
-80.000	379.670	1.7460	0.5727	1.3627	178.65	371.64	411.41	2.15483	0.399	0.639	1151
-70.000	389.670	1.6740	0.5974	1.2939	190.13	376.24	417.72	2.17124	0.398	0.624	1176
-60.000	399.670	1.6094	0.6214	1.2334	201.15	380.76	423.91	2.18692	0.397	0.613	1200
-50.000	409.670	1.5510	0.6448	1.1797	211.78	385.22	429.99	2.20195	0.396	0.604	1222
-40.000	419.670	1.4977	0.6677	1.1316	222.09	389.62	435.99	2.21641	0.396	0.596	1244
-30.000	429.670	1.4488	0.6902	1.0881	232.11	393.99	441.91	2.23037	0.397	0.590	1265
-20.000	439.670	1.4038	0.7124	1.0485	241.89	398.32	447.79	2.24388	0.397	0.585	1285
-10.000	449.670	1.3620	0.7342	1.0122	251.45	402.63	453.62	2.25699	0.398	0.581	1304
0.000	459.670	1.3231	0.7558	0.9789	260.81	406.93	459.41	2.26974	0.399	0.578	1323
10.000	469.670	1.2868	0.7771	0.9481	270.01	411.21	465.18	2.28214	0.401	0.575	1341
20.000	479.670	1.2528	0.7982	0.9194	279.05	415.49	470.92	2.29425	0.402	0.574	1358
30.000	489.670	1.2208	0.8191	0.8928	287.94	419.77	476.65	2.30607	0.404	0.572	1375
40.000	499.670	1.1907	0.8398	0.8678	296.72	424.05	482.37	2.31763	0.406	0.572	1391
50.000	509.670	1.1623	0.8604	0.8445	305.37	428.34	488.08	2.32895	0.408	0.571	1407
60.000	519.670	1.1354	0.8808	0.8225	313.92	432.64	493.80	2.34005	0.411	0.571	1423
70.000	529.670	1.1099	0.9010	0.8018	322.37	436.95	499.51	2.35095	0.413	0.572	1438
80.000	539.670	1.0855	0.9212	0.7823	330.73	441.27	505.24	2.36165	0.416	0.573	1453
100.000	559.670	1.0405	0.9611	0.7463	347.21	449.98	516.72	2.38254	0.422	0.575	1481
120.000	579.670	0.9994	1.0006	0.7138	363.39	458.78	528.26	2.40280	0.428	0.579	1509
140.000	599.670	0.9618	1.0397	0.6843	379.33	467.68	539.88	2.42251	0.435	0.583	1535
160.000	619.670	0.9271	1.0786	0.6574	395.05	476.70	551.60	2.44174	0.443	0.589	1560
180.000	639.670	0.8951	1.1172	0.6327	410.58	485.86	563.43	2.46053	0.451	0.595	1585
200.000	659.670	0.8654	1.1555	0.6099	425.93	495.15	575.39	2.47894	0.459	0.601	1608
220.000	679.670	0.8377	1.1937	0.5889	441.13	504.60	587.49	2.49701	0.467	0.608	1631
240.000	699.670	0.8119	1.2316	0.5693	456.19	514.21	599.73	2.51475	0.476	0.616	1653
280.000	739.670	0.7651	1.3070	0.5341	485.95	533.91	624.68	2.54942	0.494	0.632	1696
320.000	779.670	0.7236	1.3819	0.5033	515.31	554.32	650.28	2.58313	0.513	0.649	1737
360.000	819.670	0.6867	1.4563	0.4760	544.32	575.44	676.57	2.61600	0.532	0.666	1777
400.000	859.670	0.6535	1.5303	0.4516	573.05	597.30	703.56	2.64815	0.551	0.684	1815
440.000	899.670	0.6235	1.6039	0.4298	601.53	619.88	731.26	2.67965	0.570	0.701	1852

METHANE ISOBAR AT P = 400.0 PSI

T	T	DEN	VOL	DP/DT	OP/CO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-295.181	164.489	28.245	0.03541	166.272	3675.17	93.33	95.95	1.01295	0.496	0.783	5185
-290.000	169.670	28.006	0.03571	160.403	3518.36	97.21	99.85	1.03741	0.495	0.787	5095
-280.000	179.670	27.546	0.03630	149.592	3223.26	104.85	107.54	1.08285	0.496	0.800	4910
-270.000	189.670	27.077	0.03693	139.378	2935.37	112.72	115.46	1.12656	0.497	0.814	4720
-260.000	199.670	26.596	0.03760	129.705	2657.55	120.79	123.58	1.16871	0.496	0.826	4531
-250.000	209.670	26.100	0.03831	120.514	2391.58	129.01	131.85	1.20936	0.491	0.837	4346
-240.000	219.670	25.587	0.03908	111.749	2138.38	137.35	140.25	1.24861	0.485	0.848	4162
-230.000	229.670	25.054	0.03991	103.355	1898.19	145.81	148.77	1.28660	0.479	0.860	3975
-220.000	239.670	24.497	0.04082	95.278	1670.68	154.41	157.44	1.32356	0.474	0.875	3783
-210.000	249.670	23.912	0.04182	87.470	1455.12	163.19	166.29	1.35975	0.471	0.896	3582
-200.000	259.670	23.292	0.04293	79.880	1250.42	172.19	175.37	1.39541	0.469	0.921	3373
-190.000	269.670	22.631	0.04419	72.451	1055.36	181.46	184.74	1.43079	0.468	0.953	3156
-180.000	279.670	21.914	0.04563	65.113	868.60	191.07	194.45	1.46615	0.464	0.991	2930
-170.000	289.670	21.123	0.04734	57.773	688.80	201.09	204.59	1.50178	0.458	1.040	2693
-160.000	299.670	20.221	0.04945	50.276	514.56	211.68	215.34	1.53825	0.449	1.115	2434
-150.000	309.670	19.132	0.05227	42.321	344.01	223.24	227.11	1.57689	0.442	1.257	2130
-145.075	314.595	18.474	0.05413	38.026	260.16	229.60	233.61	1.59766	0.449	1.398	1937
-145.075	314.595	3.0193	0.3312	2.8338	64.11	332.63	357.16	1.99043	0.466	1.266	899
-140.000	319.670	2.8266	0.3538	2.5650	77.84	336.84	363.05	2.00900	0.449	1.075	929
-130.000	329.670	2.5574	0.3910	2.2223	99.50	343.80	372.77	2.03895	0.430	0.993	979
-120.000	339.670	2.3633	0.4231	1.9941	117.44	349.85	381.19	2.06414	0.419	0.900	1019
-110.000	349.670	2.2111	0.4523	1.8247	133.23	355.39	388.89	2.08647	0.412	0.743	1055
-100.000	359.670	2.0859	0.4794	1.6913	147.59	360.61	396.11	2.10684	0.407	0.704	1087
-90.000	369.670	1.9799	0.5051	1.5821	160.91	365.50	403.00	2.12573	0.404	0.675	1117
-80.000	379.670	1.8880	0.5297	1.4902	173.43	370.41	409.64	2.14346	0.401	0.654	1144
-70.000	389.670	1.8072	0.5534	1.4114	185.32	375.10	416.09	2.16023	0.399	0.637	1170
-60.000	399.670	1.7351	0.5763	1.3426	196.69	379.70	422.39	2.17619	0.398	0.624	1194
-50.000	409.670	1.6702	0.5987	1.2819	207.64	384.22	428.57	2.19147	0.398	0.613	1218
-40.000	419.670	1.6113	0.6206	1.2278	218.22	388.69	434.66	2.20614	0.397	0.604	1240
-30.000	429.670	1.5574	0.6421	1.1790	228.49	393.10	440.66	2.22028	0.398	0.597	1261
-20.000	439.670	1.5078	0.6632	1.1348	238.50	397.40	446.60	2.23395	0.398	0.591	1281
-10.000	449.670	1.4620	0.6840	1.0945	248.26	401.83	452.49	2.24720	0.399	0.587	1301
0.000	459.670	1.4195	0.7045	1.0574	257.82	406.16	458.34	2.26007	0.400	0.583	1320
10.000	469.670	1.3799	0.7247	1.0233	267.18	410.48	464.16	2.27258	0.401	0.580	1338
20.000	479.670	1.3428	0.7447	0.9917	276.38	414.70	469.95	2.28479	0.403	0.578	1356
30.000	489.670	1.3081	0.7645	0.9623	285.43	419.10	475.72	2.29670	0.405	0.576	1373
40.000	499.670	1.2753	0.7841	0.9349	294.34	423.40	481.48	2.30834	0.407	0.575	1389
50.000	509.670	1.2445	0.8036	0.9092	303.13	427.72	487.23	2.31974	0.409	0.575	1406
60.000	519.670	1.2153	0.8228	0.8851	311.80	432.04	492.98	2.33090	0.411	0.575	1421
70.000	529.670	1.1876	0.8420	0.8625	320.37	436.37	498.73	2.34186	0.414	0.575	1437
80.000	539.670	1.1614	0.8610	0.8411	328.84	440.71	504.49	2.35262	0.416	0.576	1451
100.000	559.670	1.1127	0.8987	0.8018	345.52	449.45	516.02	2.37361	0.422	0.578	1480
120.000	579.670	1.0684	0.9360	0.7664	361.89	458.28	527.61	2.39396	0.429	0.581	1508
140.000	599.670	1.0278	0.9730	0.7343	377.99	467.21	539.28	2.41375	0.436	0.586	1534
160.000	619.670	0.9905	1.0096	0.7050	393.86	476.26	551.04	2.43304	0.443	0.591	1560
180.000	639.670	0.9561	1.0460	0.6782	409.52	485.44	562.91	2.45189	0.451	0.597	1584
200.000	659.670	0.9242	1.0821	0.6536	425.00	494.76	574.90	2.47035	0.459	0.603	1608
220.000	679.670	0.8945	1.1180	0.6308	440.32	504.22	587.03	2.48846	0.468	0.610	1631
240.000	699.670	0.8668	1.1537	0.6097	455.49	513.85	599.30	2.50625	0.476	0.617	1653
280.000	739.670	0.8166	1.2246	0.5717	485.44	533.59	624.30	2.54099	0.495	0.633	1696
320.000	779.670	0.7722	1.2950	0.5384	514.96	554.02	649.94	2.57476	0.513	0.650	1738
360.000	819.670	0.7326	1.3650	0.5090	544.12	575.17	676.27	2.60768	0.532	0.667	1777
400.000	859.670	0.6971	1.4345	0.4828	572.97	597.04	703.30	2.63987	0.551	0.684	1816
440.000	899.670	0.6650	1.5037	0.4593	601.57	619.65	731.03	2.67140	0.570	0.702	1853

METHANE ISOBAR AT P = 440.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-295.055	164.615	28.250	0.03540	166.201	3680.36	93.35	96.24	1.01312	0.496	0.793	5186
-290.000	169.670	28.018	0.03569	160.487	3527.61	97.13	100.04	1.03698	0.495	0.787	5098
-280.000	179.670	27.559	0.03629	149.699	3233.37	104.77	107.72	1.08240	0.496	0.800	4914
-270.000	189.670	27.091	0.03691	139.507	2946.21	112.64	115.64	1.12608	0.497	0.813	4725
-260.000	199.670	26.611	0.03758	129.855	2669.02	120.69	123.75	1.16820	0.496	0.826	4538
-250.000	209.670	26.117	0.03829	120.687	2403.62	128.90	132.02	1.20882	0.491	0.836	4353
-240.000	219.670	25.606	0.03905	111.945	2150.94	137.22	140.41	1.24802	0.485	0.847	4170
-230.000	229.670	25.075	0.03988	103.575	1911.27	145.67	148.92	1.28596	0.479	0.859	3984
-220.000	239.670	24.521	0.04078	95.526	1684.30	154.25	157.57	1.32286	0.474	0.874	3793
-210.000	249.670	23.939	0.04177	87.749	1469.33	163.00	166.40	1.35897	0.471	0.894	3594
-200.000	259.670	23.324	0.04287	80.194	1265.32	171.97	175.46	1.39454	0.469	0.919	3387
-190.000	269.670	22.668	0.04411	72.808	1071.07	181.20	184.80	1.42981	0.468	0.949	3172
-180.000	279.670	21.960	0.04554	65.526	885.37	190.75	194.47	1.46500	0.465	0.986	2949
-170.000	289.670	21.180	0.04721	58.261	706.81	200.70	204.54	1.50040	0.458	1.032	2716
-160.000	299.670	20.297	0.04927	50.877	534.31	211.17	215.18	1.53651	0.449	1.101	2465
-150.000	309.670	19.245	0.05196	43.121	366.39	222.52	226.75	1.57447	0.441	1.227	2173
-140.032	319.638	17.852	0.05602	34.363	200.21	235.73	240.29	1.61744	0.452	1.547	1782
-140.032	319.638	3.4315	0.2914	3.3172	55.04	330.94	354.68	1.97536	0.478	1.483	889
-140.000	319.670	3.4296	0.2916	3.3143	55.15	330.97	354.73	1.97551	0.478	1.480	890
-130.000	329.670	2.9962	0.3338	2.7092	83.02	339.69	366.88	2.01297	0.444	1.045	952
-120.000	339.670	2.7249	0.3670	2.3714	103.92	346.54	376.44	2.04155	0.428	0.886	999
-110.000	349.670	2.5251	0.3960	2.1386	121.59	352.57	384.84	2.06592	0.418	0.800	1038
-100.000	359.670	2.3668	0.4225	1.9629	137.30	358.12	392.55	2.08766	0.412	0.746	1073
-90.000	369.670	2.2359	0.4473	1.8230	151.66	363.36	399.80	2.10756	0.408	0.708	1105
-80.000	379.670	2.1244	0.4707	1.7077	165.02	368.38	406.73	2.12606	0.404	0.680	1134
-70.000	389.670	2.0276	0.4932	1.6103	177.61	373.24	413.42	2.14344	0.402	0.658	1161
-60.000	399.670	1.9422	0.5149	1.5264	189.58	377.97	419.92	2.15991	0.401	0.642	1186
-50.000	409.670	1.8659	0.5359	1.4531	201.04	382.60	426.27	2.17560	0.400	0.629	1210
-40.000	419.670	1.7972	0.5564	1.3882	212.08	387.16	432.50	2.19063	0.399	0.618	1233
-30.000	429.670	1.7347	0.5765	1.3302	222.76	391.66	438.63	2.20507	0.399	0.609	1255
-20.000	439.670	1.6775	0.5961	1.2779	233.13	396.12	444.69	2.21901	0.400	0.602	1276
-10.000	449.670	1.6248	0.6155	1.2304	243.23	400.54	450.68	2.23248	0.400	0.597	1296
0.000	459.670	1.5761	0.6345	1.1870	253.09	404.93	456.62	2.24555	0.401	0.592	1315
10.000	469.670	1.5309	0.6532	1.1472	262.73	409.30	462.52	2.25825	0.402	0.588	1334
20.000	479.670	1.4887	0.6717	1.1105	272.19	413.66	468.39	2.27062	0.404	0.585	1352
30.000	489.670	1.4492	0.6900	1.0764	281.48	418.01	474.23	2.28267	0.406	0.583	1370
40.000	499.670	1.4121	0.7082	1.0447	290.61	422.36	480.06	2.29445	0.407	0.582	1386
50.000	509.670	1.3772	0.7261	1.0152	299.61	426.71	485.87	2.30595	0.410	0.581	1403
60.000	519.670	1.3443	0.7439	0.9875	308.48	431.07	491.68	2.31724	0.412	0.580	1419
70.000	529.670	1.3131	0.7615	0.9615	317.23	435.43	497.48	2.32830	0.414	0.580	1434
80.000	539.670	1.2836	0.7791	0.9370	325.87	439.81	503.28	2.33916	0.417	0.580	1450
100.000	559.670	1.2289	0.8137	0.8921	342.87	448.61	514.91	2.36031	0.423	0.582	1479
120.000	579.670	1.1793	0.8480	0.8518	359.53	457.49	526.58	2.38079	0.429	0.585	1507
140.000	599.670	1.1333	0.8819	0.8154	375.89	466.46	538.32	2.40070	0.436	0.589	1533
160.000	619.670	1.0923	0.9155	0.7823	392.00	475.55	550.14	2.42010	0.444	0.594	1559
180.000	639.670	1.0533	0.9488	0.7521	407.88	484.77	562.07	2.43905	0.451	0.599	1584
200.000	659.670	1.0184	0.9819	0.7243	423.56	494.12	574.12	2.45760	0.460	0.606	1608
220.000	679.670	0.9854	1.0148	0.6986	439.06	503.62	586.30	2.47578	0.468	0.612	1631
240.000	699.670	0.9547	1.0475	0.6749	454.40	513.27	598.61	2.49364	0.477	0.619	1654
280.000	739.670	0.8990	1.1123	0.6323	484.66	533.07	623.69	2.52849	0.495	0.635	1697
320.000	779.670	0.8499	1.1766	0.5951	514.44	553.54	649.41	2.56235	0.514	0.651	1738
360.000	819.670	0.8062	1.2405	0.5622	543.83	574.73	675.80	2.59535	0.533	0.668	1778
400.000	859.670	0.7669	1.3039	0.5330	572.88	596.64	702.88	2.62761	0.552	0.686	1817
440.000	899.670	0.7315	1.3670	0.5069	601.65	619.28	730.66	2.65920	0.570	0.703	1854

METHANE ISOBAR AT P = 480.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LA/R	BTU/LA/R	BTU/LB/R	FT/S
-294.928	164.742	28.255	0.03539	166.130	3685.54	93.38	96.52	1.01329	0.497	0.783	5188
-290.000	169.670	28.029	0.03568	160.570	3536.82	97.06	100.23	1.03656	0.495	0.787	5102
-280.000	179.670	27.571	0.03627	149.806	3243.44	104.69	107.91	1.08195	0.496	0.799	4919
-270.000	189.670	27.104	0.03689	139.635	2957.01	112.55	115.83	1.12561	0.498	0.813	4731
-260.000	199.670	26.626	0.03756	130.005	2680.46	120.59	123.93	1.16769	0.496	0.825	4544
-250.000	209.670	26.133	0.03827	120.859	2415.61	128.79	132.19	1.20827	0.492	0.836	4361
-240.000	219.670	25.624	0.03903	112.139	2163.46	137.10	140.57	1.24743	0.486	0.846	4178
-230.000	229.670	25.096	0.03985	103.794	1924.30	145.53	149.07	1.28533	0.479	0.857	3994
-220.000	239.670	24.544	0.04074	95.771	1697.86	154.09	157.71	1.32217	0.474	0.872	3804
-210.000	249.670	23.966	0.04173	88.024	1483.46	162.81	166.52	1.35820	0.471	0.892	3606
-200.000	259.670	23.356	0.04282	80.504	1280.12	171.75	175.56	1.39368	0.470	0.916	3401
-190.000	269.670	22.705	0.04404	73.161	1086.66	180.95	184.86	1.42883	0.468	0.945	3188
-180.000	279.670	22.005	0.04544	65.932	901.87	190.45	194.49	1.46387	0.465	0.981	2968
-170.000	289.670	21.236	0.04709	58.738	724.58	200.32	204.50	1.49906	0.458	1.025	2740
-160.000	299.670	20.371	0.04909	51.459	553.71	210.68	215.04	1.53482	0.449	1.088	2494
-150.000	309.670	19.351	0.05168	43.878	388.12	221.83	226.42	1.57217	0.441	1.200	2213
-140.000	319.670	18.035	0.05545	35.492	225.72	234.62	239.55	1.61382	0.450	1.465	1846
-135.318	324.352	17.197	0.05815	30.861	148.69	241.83	247.00	1.63696	0.457	1.758	1628
-135.318	324.352	3.8905	0.2570	3.8781	45.72	328.80	351.65	1.95964	0.493	1.798	879
-130.000	329.670	3.5410	0.2824	3.3600	64.10	334.61	359.72	1.98432	0.463	1.321	920
-120.000	339.670	3.1392	0.3186	2.8266	89.36	342.78	371.10	2.01835	0.438	1.009	976
-110.000	349.670	2.8716	0.3482	2.4998	109.42	349.49	380.44	2.04547	0.425	0.374	1020
-100.000	359.670	2.6699	0.3745	2.2668	126.72	355.47	388.76	2.06894	0.417	0.796	1058
-90.000	369.670	2.5081	0.3987	2.0878	142.25	361.01	396.45	2.09003	0.412	0.745	1092
-80.000	379.670	2.3733	0.4214	1.9437	156.53	366.26	403.71	2.10942	0.408	0.709	1123
-70.000	389.670	2.2579	0.4429	1.8240	169.87	371.30	410.66	2.12749	0.405	0.682	1151
-60.000	399.670	2.1573	0.4636	1.7223	182.48	376.18	417.38	2.14451	0.403	0.662	1178
-50.000	409.670	2.0682	0.4835	1.6344	194.48	380.94	423.91	2.16065	0.402	0.545	1203
-40.000	419.670	1.9886	0.5029	1.5572	206.00	385.60	430.30	2.17605	0.401	0.533	1227
-30.000	429.670	1.9166	0.5218	1.4887	217.09	390.19	436.57	2.19082	0.401	0.622	1249
-20.000	439.670	1.8510	0.5402	1.4274	227.84	394.73	442.75	2.20503	0.401	0.514	1271
-10.000	449.670	1.7910	0.5584	1.3720	238.27	399.22	448.85	2.21875	0.402	0.507	1291
0.000	459.670	1.7356	0.5762	1.3217	248.44	403.68	454.89	2.23203	0.402	0.601	1311
10.000	469.670	1.6844	0.5937	1.2756	258.37	408.11	460.87	2.24492	0.404	0.597	1330
20.000	479.670	1.6367	0.6110	1.2333	268.08	412.52	466.82	2.25745	0.405	0.593	1349
30.000	489.670	1.5923	0.6280	1.1941	277.61	416.92	472.74	2.26956	0.407	0.590	1367
40.000	499.670	1.5506	0.6449	1.1579	286.97	421.31	478.63	2.28157	0.408	0.588	1384
50.000	509.670	1.5115	0.6616	1.1241	296.17	425.70	484.50	2.29321	0.410	0.587	1400
60.000	519.670	1.4746	0.6781	1.0925	305.23	430.09	490.37	2.30460	0.413	0.586	1417
70.000	529.670	1.4398	0.6945	1.0630	314.17	434.49	496.22	2.31576	0.415	0.585	1433
80.000	539.670	1.4069	0.7108	1.0352	322.98	438.90	502.07	2.32671	0.418	0.585	1448
100.000	559.670	1.3460	0.7429	0.9844	340.30	447.76	513.79	2.34802	0.424	0.586	1477
120.000	579.670	1.2909	0.7747	0.9390	357.24	456.69	525.54	2.36866	0.430	0.589	1506
140.000	599.670	1.2405	0.8061	0.8980	373.86	465.71	537.35	2.38869	0.437	0.592	1533
160.000	619.670	1.1946	0.8371	0.8609	390.20	474.84	549.25	2.40820	0.444	0.597	1559
180.000	639.670	1.1522	0.8679	0.8270	406.30	484.09	561.24	2.42724	0.452	0.602	1584
200.000	659.670	1.1130	0.8985	0.7959	422.17	493.48	573.34	2.44587	0.460	0.508	1608
220.000	679.670	1.0767	0.9288	0.7673	437.85	503.01	585.57	2.46413	0.469	0.515	1631
240.000	699.670	1.0428	0.9589	0.7409	453.36	512.69	597.93	2.48205	0.477	0.522	1654
280.000	739.670	0.9816	1.0187	0.6935	483.91	532.54	623.09	2.51702	0.495	0.637	1697
320.000	779.670	0.9277	1.0779	0.6522	513.95	553.07	648.88	2.55097	0.514	0.653	1739
360.000	819.670	0.8797	1.1367	0.6159	543.56	574.30	675.33	2.58405	0.533	0.670	1779
400.000	859.670	0.8368	1.1951	0.5836	572.81	596.24	702.47	2.61638	0.552	0.687	1818
440.000	899.670	0.7980	1.2531	0.5547	601.75	618.92	730.30	2.64802	0.571	0.705	1855

METHANE ISOBAR AT P = 520.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/L/R	W FT/S
-294.802	164.868	28.261	0.03538	166.059	3690.71	93.40	96.81	1.01346	0.497	0.783	5189
-290.000	169.670	28.040	0.03566	160.653	3546.00	96.99	100.42	1.03613	0.496	0.786	5106
-280.000	179.670	27.583	0.03625	149.911	3253.48	104.61	108.10	1.08150	0.497	0.799	4923
-270.000	189.670	27.118	0.03688	139.762	2967.77	112.46	116.01	1.12513	0.498	0.812	4736
-260.000	199.670	26.641	0.03754	130.154	2691.85	120.49	124.11	1.16719	0.497	0.824	4550
-250.000	209.670	26.150	0.03824	121.029	2427.56	128.67	132.36	1.20773	0.492	0.835	4368
-240.000	219.670	25.643	0.03900	112.332	2175.94	136.97	140.73	1.24685	0.486	0.845	4186
-230.000	229.670	25.116	0.03981	104.010	1937.28	145.38	149.22	1.28469	0.480	0.856	4003
-220.000	239.670	24.568	0.04070	96.014	1711.36	153.92	157.84	1.32148	0.475	0.871	3814
-210.000	249.670	23.993	0.04168	88.296	1497.53	162.63	166.64	1.35744	0.472	0.890	3618
-200.000	259.670	23.387	0.04276	80.811	1294.82	171.54	175.65	1.39283	0.470	0.914	3414
-190.000	269.670	22.742	0.04397	73.508	1102.12	180.69	184.93	1.42787	0.469	0.942	3204
-180.000	279.670	22.049	0.04535	66.331	918.26	190.15	194.51	1.46276	0.465	0.976	2987
-170.000	289.670	21.291	0.04697	59.205	742.13	199.95	204.47	1.49774	0.458	1.017	2762
-160.000	299.670	20.442	0.04892	52.022	572.76	210.21	214.92	1.53319	0.449	1.076	2523
-150.000	309.670	19.451	0.05141	44.600	409.28	221.18	226.13	1.56999	0.440	1.177	2251
-140.000	319.670	18.203	0.05494	36.541	250.42	233.57	238.86	1.61040	0.448	1.400	1905
-130.893	328.777	16.488	0.06065	27.469	104.80	248.04	253.88	1.65669	0.465	2.078	1472
-130.893	328.777	4.4147	0.2265	4.5459	36.21	326.10	347.91	1.94272	0.511	2.293	868
-130.000	329.670	4.3109	0.2320	4.3783	40.43	327.51	349.85	1.94860	0.500	2.058	878
-120.000	339.670	3.6315	0.2754	3.3984	73.38	338.37	364.88	1.99359	0.452	1.203	951
-110.000	349.670	3.2602	0.3067	2.9229	96.57	346.07	375.60	2.02471	0.434	0.973	1002
-100.000	359.670	3.0000	0.3333	2.6103	115.78	352.61	384.71	2.05039	0.423	0.959	1043
-90.000	369.670	2.7992	0.3572	2.3804	132.65	358.52	392.92	2.07293	0.416	0.789	1080
-80.000	379.670	2.6361	0.3794	2.2005	147.95	364.04	400.57	2.09334	0.411	0.743	1112
-70.000	389.670	2.4989	0.4002	2.0540	162.10	369.28	407.82	2.11218	0.408	0.709	1142
-60.000	399.670	2.3808	0.4200	1.9313	175.37	374.33	414.77	2.12981	0.406	0.683	1170
-50.000	409.670	2.2774	0.4391	1.8265	187.95	379.22	421.50	2.14644	0.404	0.664	1196
-40.000	419.670	2.1856	0.4575	1.7353	199.95	384.00	428.06	2.16226	0.403	0.648	1220
-30.000	429.670	2.1032	0.4755	1.6551	211.48	388.70	434.48	2.17737	0.403	0.636	1244
-20.000	439.670	2.0287	0.4929	1.5836	222.61	393.32	440.78	2.19187	0.403	0.626	1266
-10.000	449.670	1.9606	0.5100	1.5195	233.39	397.88	446.99	2.20584	0.403	0.617	1287
0.000	459.670	1.8982	0.5268	1.4614	243.87	402.40	453.13	2.21934	0.404	0.611	1307
10.000	469.670	1.8405	0.5433	1.4086	254.08	406.89	459.21	2.23243	0.405	0.605	1327
20.000	479.670	1.7871	0.5596	1.3601	264.06	411.36	465.24	2.24513	0.406	0.601	1346
30.000	489.670	1.7374	0.5756	1.3155	273.82	415.81	471.23	2.25749	0.408	0.597	1364
40.000	499.670	1.6909	0.5914	1.2743	283.40	420.24	477.19	2.26954	0.409	0.595	1381
50.000	509.670	1.6473	0.6070	1.2360	292.82	424.66	483.13	2.28131	0.411	0.593	1398
60.000	519.670	1.6064	0.6225	1.2004	302.07	429.11	489.05	2.29281	0.414	0.591	1415
70.000	529.670	1.5678	0.6379	1.1670	311.19	433.54	494.96	2.30408	0.416	0.591	1431
80.000	539.670	1.5313	0.6530	1.1358	320.17	437.98	500.86	2.31512	0.419	0.590	1446
100.000	559.670	1.4640	0.6831	1.0787	337.80	446.90	512.67	2.33660	0.424	0.591	1476
120.000	579.670	1.4032	0.7127	1.0278	355.03	455.88	524.51	2.35738	0.431	0.593	1505
140.000	599.670	1.3479	0.7419	0.9821	371.90	464.96	536.39	2.37754	0.437	0.596	1532
160.000	619.670	1.2973	0.7708	0.9407	388.47	474.13	548.35	2.39715	0.445	0.600	1558
180.000	639.670	1.2508	0.7995	0.9031	404.77	483.42	560.40	2.41629	0.453	0.605	1583
200.000	659.670	1.2079	0.8279	0.8696	420.84	492.84	572.56	2.43501	0.461	0.611	1608
220.000	679.670	1.1681	0.8561	0.8369	436.70	502.41	584.84	2.45334	0.469	0.617	1631
240.000	699.670	1.1312	0.8841	0.8076	452.37	512.12	597.24	2.47133	0.478	0.624	1654
280.000	739.670	1.0643	0.9395	0.7553	483.21	532.02	622.49	2.50641	0.496	0.639	1698
320.000	779.670	1.0056	0.9945	0.7099	513.50	552.59	648.35	2.54046	0.514	0.655	1740
360.000	819.670	0.9533	1.0490	0.6699	543.33	573.86	674.86	2.57362	0.533	0.671	1780
400.000	859.670	0.9065	1.1030	0.6345	572.77	595.84	702.05	2.60601	0.552	0.688	1819
440.000	899.670	0.8645	1.1568	0.6028	601.88	618.55	729.94	2.63770	0.571	0.706	1856

METHANE ISOBAR AT P = 560.0 PSI

T	T	DEH	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/DO	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-294.675	164.995	28.266	0.03538	165.988	3695.86	93.42	97.09	1.01364	0.497	0.782	5190
-290.000	169.670	28.051	0.03565	160.735	3555.14	96.92	100.62	1.03570	0.496	0.786	5110
-280.000	179.670	27.595	0.03624	150.016	3263.48	104.53	108.29	1.08105	0.497	0.798	4928
-270.000	189.670	27.131	0.03686	139.889	2978.50	112.37	116.19	1.12465	0.498	0.812	4741
-260.000	199.670	26.656	0.03752	130.301	2703.20	120.40	124.29	1.16668	0.497	0.824	4556
-250.000	209.670	26.166	0.03822	121.198	2439.48	128.56	132.53	1.20719	0.493	0.834	4375
-240.000	219.670	25.661	0.03897	112.524	2188.36	136.85	140.89	1.24627	0.486	0.844	4194
-230.000	229.670	25.137	0.03978	104.225	1950.20	145.24	149.37	1.28407	0.480	0.855	4012
-220.000	239.670	24.591	0.04067	96.255	1724.80	153.76	157.98	1.32079	0.475	0.869	3824
-210.000	249.670	24.020	0.04163	88.566	1511.52	162.44	166.76	1.35668	0.472	0.888	3629
-200.000	259.670	23.417	0.04270	81.114	1309.45	171.32	175.75	1.39199	0.470	0.911	3427
-190.000	269.670	22.778	0.04390	73.851	1117.47	180.45	185.00	1.42692	0.469	0.939	3219
-180.000	279.670	22.092	0.04527	66.722	934.50	189.85	194.54	1.46167	0.466	0.971	3005
-170.000	289.670	21.344	0.04685	59.661	759.46	199.59	204.44	1.49645	0.459	1.011	2784
-160.000	299.670	20.510	0.04876	52.569	591.50	209.75	214.80	1.53160	0.449	1.065	2550
-150.000	309.670	19.546	0.05116	45.289	429.93	220.56	225.86	1.56790	0.440	1.156	2287
-140.000	319.670	18.355	0.05448	37.505	274.03	232.62	238.27	1.60727	0.447	1.348	1958
-130.000	329.670	16.622	0.06016	28.238	120.90	247.67	253.91	1.65541	0.461	1.919	1526
-126.723	332.947	15.696	0.06371	24.128	67.97	254.53	261.13	1.67720	0.479	2.522	1313
-126.723	332.947	5.0354	0.1986	5.3703	26.62	322.62	343.21	1.92377	0.535	3.169	855
-120.000	339.670	4.2551	0.2350	4.1698	55.31	332.86	357.23	1.96549	0.473	1.565	921
-110.000	349.670	3.7065	0.2698	3.4309	82.91	342.19	370.17	2.00307	0.444	1.113	981
-100.000	359.670	3.3635	0.2973	3.0030	104.43	349.50	380.33	2.03173	0.430	0.938	1028
-90.000	369.670	3.1125	0.3213	2.7058	122.82	355.87	389.19	2.05604	0.421	0.842	1067
-80.000	379.670	2.9147	0.3431	2.4810	139.24	361.71	397.29	2.07766	0.415	0.781	1102
-70.000	389.670	2.7518	0.3634	2.3020	154.27	367.19	404.87	2.09738	0.411	0.738	1133
-60.000	399.670	2.6137	0.3826	2.1547	168.26	372.42	412.10	2.11568	0.408	0.707	1162
-50.000	409.670	2.4940	0.4010	2.0302	181.43	377.47	419.04	2.13285	0.406	0.683	1189
-40.000	419.670	2.3888	0.4186	1.9231	193.95	382.37	425.78	2.14910	0.405	0.665	1214
-30.000	429.670	2.2949	0.4357	1.8296	205.92	387.17	432.35	2.16457	0.404	0.650	1238
-20.000	439.670	2.2105	0.4524	1.7469	217.44	391.88	438.79	2.17939	0.404	0.638	1261
-10.000	449.670	2.1338	0.4686	1.6730	228.57	396.52	445.12	2.19362	0.404	0.628	1283
0.000	459.670	2.0637	0.4846	1.6066	239.37	401.12	451.36	2.20736	0.405	0.620	1304
10.000	469.670	1.9993	0.5002	1.5463	249.87	405.67	457.53	2.22064	0.406	0.614	1323
20.000	479.670	1.9397	0.5155	1.4912	260.11	410.19	463.65	2.23352	0.407	0.609	1343
30.000	489.670	1.8844	0.5307	1.4407	270.12	414.69	469.72	2.24604	0.409	0.605	1361
40.000	499.670	1.8329	0.5456	1.3942	279.92	419.17	475.75	2.25823	0.410	0.602	1379
50.000	509.670	1.7847	0.5603	1.3510	289.54	423.65	481.75	2.27013	0.412	0.599	1396
60.000	519.670	1.7395	0.5749	1.3110	298.99	428.12	487.73	2.28175	0.414	0.597	1413
70.000	529.670	1.6969	0.5893	1.2736	308.29	432.59	493.70	2.29312	0.417	0.596	1429
80.000	539.670	1.6568	0.6036	1.2386	317.44	437.06	499.65	2.30426	0.419	0.595	1445
100.000	559.670	1.5828	0.6318	1.1750	335.38	446.04	511.56	2.32592	0.425	0.595	1475
120.000	579.670	1.5162	0.6595	1.1184	352.88	455.08	523.47	2.34684	0.431	0.597	1504
140.000	599.670	1.4557	0.6869	1.0676	370.01	464.20	535.43	2.36712	0.438	0.599	1532
160.000	619.670	1.4005	0.7140	1.0218	386.80	473.42	547.46	2.38685	0.445	0.603	1558
180.000	639.670	1.3498	0.7408	0.9802	403.31	482.75	559.57	2.40608	0.453	0.608	1583
200.000	659.670	1.3031	0.7674	0.9422	419.57	492.20	571.78	2.42488	0.461	0.613	1608
220.000	679.670	1.2599	0.7937	0.9073	435.60	501.80	584.11	2.44329	0.470	0.619	1632
240.000	699.670	1.2197	0.8199	0.8752	451.42	511.54	596.56	2.46134	0.478	0.626	1655
260.000	739.670	1.1472	0.8717	0.8178	482.56	531.49	621.89	2.49654	0.496	0.641	1699
320.000	779.670	1.0835	0.9230	0.7680	513.09	552.11	647.82	2.53068	0.515	0.656	1741
360.000	819.670	1.0270	0.9737	0.7244	543.13	573.42	674.40	2.56392	0.534	0.673	1781
400.000	859.670	0.9764	1.0241	0.6857	572.76	595.44	701.64	2.59637	0.553	0.690	1820
440.000	899.670	0.9309	1.0742	0.6512	602.04	618.18	729.57	2.62813	0.571	0.707	1858

METHANE ISOBAR AT P = 500.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LR	RTU/LR/R	BTU/LB/R	BTU/LB/R	FT/S
-294.549	165.121	28.272	0.01537	165.917	3700.99	93.45	97.38	1.01381	0.498	0.782	5192
-290.000	169.670	28.063	0.03563	160.817	3564.24	96.85	100.81	1.03528	0.496	0.786	5113
-280.000	179.670	27.608	0.03622	150.121	3273.44	104.45	108.48	1.08060	0.497	0.798	4932
-270.000	189.670	27.145	0.03684	140.014	2989.18	112.28	116.38	1.12415	0.499	0.811	4747
-260.000	199.670	26.670	0.03749	130.448	2714.52	120.30	124.46	1.16618	0.497	0.823	4563
-250.000	209.670	26.183	0.03819	121.366	2451.35	128.45	132.70	1.20666	0.493	0.833	4382
-240.000	219.670	25.679	0.03894	112.714	2200.75	136.72	141.05	1.24569	0.487	0.843	4202
-230.000	229.670	25.158	0.03975	104.439	1963.08	145.10	149.52	1.28344	0.480	0.854	4021
-220.000	239.670	24.614	0.04063	96.494	1738.17	153.60	158.12	1.32011	0.475	0.858	3834
-210.000	249.670	24.046	0.04159	88.833	1525.43	162.26	166.88	1.35594	0.472	0.866	3641
-200.000	259.670	23.443	0.04265	81.414	1323.97	171.11	175.85	1.39116	0.471	0.909	3441
-190.000	269.670	22.814	0.04383	74.189	1132.71	180.20	185.07	1.42599	0.469	0.936	3234
-180.000	279.670	22.134	0.04518	67.108	950.59	189.56	194.58	1.46060	0.466	0.967	3023
-170.000	289.670	21.396	0.04674	60.107	776.60	199.23	204.42	1.49518	0.459	1.004	2806
-160.000	299.670	20.577	0.04860	53.100	609.95	209.30	214.70	1.53000	0.449	1.055	2577
-150.000	309.670	19.637	0.05092	45.950	450.11	219.96	225.62	1.56590	0.440	1.137	2322
-140.000	319.670	18.495	0.05407	38.400	296.77	231.74	237.74	1.60437	0.446	1.305	2007
-130.000	329.670	16.920	0.05910	29.775	148.85	245.91	252.48	1.64974	0.456	1.726	1615
-122.783	336.887	14.760	0.05775	20.755	37.73	261.62	269.15	1.69969	0.503	3.771	1145
-122.783	336.887	5.8136	0.1720	6.4467	17.14	317.95	337.06	1.99132	0.572	5.047	837
-120.000	339.670	5.1641	0.1936	5.3851	33.64	325.00	346.51	1.92927	0.510	2.543	882
-110.000	349.670	4.2367	0.2360	4.0632	68.26	337.66	363.88	1.97975	0.457	1.330	959
-100.000	359.670	3.7693	0.2653	3.4587	92.62	346.06	375.53	2.01261	0.438	1.043	1011
-90.000	369.670	3.4522	0.2897	3.0704	112.77	353.03	385.21	2.03917	0.427	0.907	1054
-80.000	379.670	3.2114	0.3114	2.7887	130.42	359.25	393.85	2.06222	0.419	0.826	1091
-70.000	389.670	3.0179	0.3314	2.5703	146.39	365.01	401.82	2.08295	0.414	0.772	1124
-60.000	399.670	2.8566	0.3501	2.3936	161.13	370.45	409.34	2.10200	0.411	0.734	1154
-50.000	409.670	2.7186	0.3678	2.2465	174.93	375.66	416.53	2.11976	0.409	0.705	1182
-40.000	419.670	2.5982	0.3849	2.1212	187.98	380.70	423.46	2.13648	0.407	0.683	1208
-30.000	429.670	2.4913	0.4013	2.0127	200.41	385.61	430.19	2.15234	0.406	0.665	1233
-20.000	439.670	2.3966	0.4173	1.9175	212.34	390.41	436.77	2.16748	0.406	0.651	1257
-10.000	449.670	2.3106	0.4328	1.8330	223.82	395.14	443.23	2.18200	0.406	0.640	1279
0.000	459.670	2.2324	0.4479	1.7572	234.94	399.81	449.58	2.19597	0.406	0.631	1300
10.000	469.670	2.1607	0.4628	1.6888	245.73	404.43	455.85	2.20946	0.407	0.623	1320
20.000	479.670	2.0947	0.4774	1.6266	256.24	409.01	462.05	2.22253	0.408	0.617	1340
30.000	489.670	2.0335	0.4918	1.5698	266.49	413.56	468.20	2.23521	0.410	0.612	1359
40.000	499.670	1.9767	0.5059	1.5175	276.52	418.09	474.30	2.24755	0.411	0.608	1377
50.000	509.670	1.9236	0.5199	1.4692	286.34	422.61	480.37	2.25957	0.413	0.605	1394
60.000	519.670	1.8739	0.5336	1.4244	295.99	427.12	486.41	2.27131	0.415	0.603	1411
70.000	529.670	1.8273	0.5473	1.3828	305.46	431.63	492.43	2.28279	0.418	0.601	1428
80.000	539.670	1.7833	0.5608	1.3439	314.79	436.14	498.44	2.29403	0.420	0.600	1444
100.000	559.670	1.7025	0.5874	1.2732	333.04	445.18	510.44	2.31586	0.426	0.600	1474
120.000	579.670	1.6293	0.6135	1.2106	350.81	454.27	522.44	2.33693	0.432	0.601	1504
140.000	599.670	1.5641	0.6393	1.1546	368.18	463.44	534.47	2.35734	0.439	0.603	1531
160.000	619.670	1.5041	0.6648	1.1047	385.20	472.70	546.57	2.37717	0.446	0.606	1558
180.000	639.670	1.4492	0.6900	1.0585	401.91	482.07	558.74	2.39650	0.454	0.611	1584
200.000	659.670	1.3986	0.7150	1.0169	418.35	491.56	571.00	2.41538	0.462	0.616	1608
220.000	679.670	1.3518	0.7398	0.9787	434.55	501.19	583.38	2.43387	0.470	0.622	1632
240.000	699.670	1.3084	0.7643	0.9435	450.54	510.96	595.88	2.45199	0.479	0.628	1655
260.000	719.670	1.2301	0.8129	0.8809	461.95	520.97	621.29	2.48731	0.497	0.642	1699
320.000	779.670	1.1615	0.8610	0.8267	512.72	551.63	647.29	2.52154	0.515	0.658	1742
360.000	819.670	1.1006	0.9086	0.7793	542.98	572.99	673.93	2.55486	0.534	0.674	1782
400.000	859.670	1.0463	0.9558	0.7373	572.79	595.04	701.23	2.58737	0.553	0.691	1821
440.000	899.670	0.9973	1.0027	0.6999	602.23	617.81	729.21	2.61918	0.572	0.708	1859

METHANE ISOBAR AT P = 650.0 PSI

T	T	DEN	VOL	OP/DT	OP/DD	E	H	S	CV	CF	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LF	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-294.392	165.278	28.278	0.03536	165.829	3707.39	93.48	97.74	1.01402	0.498	0.782	5193
-290.000	169.670	28.077	0.03562	160.918	3575.56	96.76	101.05	1.03475	0.497	0.785	5118
-280.000	179.670	27.623	0.03620	150.250	3285.84	104.35	108.71	1.08005	0.498	0.797	4938
-270.000	189.670	27.161	0.03682	140.170	3002.49	112.17	116.60	1.12360	0.499	0.811	4753
-260.000	199.670	26.689	0.03747	130.630	2728.61	120.18	124.69	1.16556	0.498	0.822	4570
-250.000	209.670	26.203	0.03816	121.575	2466.15	128.32	132.91	1.20599	0.493	0.832	4390
-240.000	219.670	25.702	0.03891	112.949	2216.16	136.57	141.25	1.24498	0.487	0.842	4212
-230.000	229.670	25.183	0.03971	104.703	1979.10	144.93	149.71	1.28267	0.481	0.852	4032
-220.000	239.670	24.643	0.04058	96.789	1754.81	153.41	158.29	1.31926	0.476	0.866	3847
-210.000	249.670	24.078	0.04153	89.164	1542.73	162.04	167.03	1.35501	0.473	0.884	3655
-200.000	259.670	23.485	0.04258	81.783	1342.01	170.85	175.98	1.39013	0.471	0.906	3457
-190.000	269.670	22.857	0.04375	74.605	1151.60	179.90	185.16	1.42483	0.470	0.932	3253
-180.000	279.670	22.186	0.04507	67.580	970.50	189.20	194.63	1.45927	0.466	0.961	3045
-170.000	289.670	21.460	0.04660	60.653	797.75	198.80	204.41	1.49364	0.459	0.996	2832
-160.000	299.670	20.657	0.04841	53.744	632.63	208.76	214.59	1.52819	0.449	1.043	2609
-150.000	309.670	19.745	0.05064	46.741	474.76	219.26	225.35	1.56351	0.440	1.116	2363
-140.000	319.670	18.657	0.05360	39.441	324.15	230.71	237.17	1.60101	0.444	1.261	2064
-130.000	329.670	17.223	0.05806	31.394	180.92	244.09	251.08	1.64383	0.452	1.573	1708
-120.000	339.670	14.573	0.06862	20.469	40.82	264.04	272.30	1.70713	0.499	3.538	1158
-118.163	341.507	13.052	0.07662	16.013	8.41	273.17	282.39	1.73674	0.585	11.307	890
-118.163	341.507	7.3075	0.1368	8.5906	5.28	308.44	324.91	1.86128	0.682	17.234	786
-110.000	349.670	5.1007	0.1961	5.1507	48.30	330.46	354.06	1.94593	0.480	1.847	928
-100.000	359.670	4.3597	0.2294	4.1491	77.25	341.16	368.77	1.98746	0.449	1.230	990
-90.000	369.670	3.9229	0.2549	3.5947	99.89	349.15	379.83	2.01781	0.434	1.110	1037
-80.000	379.670	3.6122	0.2768	3.2184	119.23	355.98	389.30	2.04307	0.425	0.893	1077
-70.000	389.670	3.3716	0.2966	2.9378	136.47	362.14	397.84	2.06528	0.419	0.820	1113
-60.000	399.670	3.1758	0.3149	2.7168	152.21	367.88	405.78	2.08540	0.415	0.770	1145
-50.000	409.670	3.0112	0.3321	2.5361	166.82	373.32	413.29	2.10397	0.412	0.734	1174
-40.000	419.670	2.8696	0.3485	2.3845	180.56	378.55	420.49	2.12133	0.410	0.707	1201
-30.000	429.670	2.7457	0.3642	2.2545	193.59	383.61	427.45	2.13771	0.408	0.596	1227
-20.000	439.670	2.6357	0.3794	2.1417	206.03	388.55	434.21	2.15329	0.408	0.669	1251
-10.000	449.670	2.5370	0.3942	2.0422	217.97	393.39	440.83	2.16817	0.408	0.555	1274
0.000	459.670	2.4477	0.4085	1.9536	229.50	398.15	447.33	2.18245	0.408	0.644	1296
10.000	469.670	2.3663	0.4226	1.8741	240.66	402.86	453.72	2.19622	0.409	0.535	1317
20.000	479.670	2.2916	0.4364	1.8022	251.50	407.51	460.04	2.20952	0.410	0.628	1337
30.000	489.670	2.2227	0.4499	1.7366	262.06	412.14	466.29	2.22242	0.411	0.522	1356
40.000	499.670	2.1583	0.4632	1.6766	272.37	416.73	472.48	2.23494	0.412	0.517	1374
50.000	509.670	2.0994	0.4763	1.6214	282.45	421.30	478.64	2.24714	0.414	0.514	1392
60.000	519.670	2.0439	0.4893	1.5703	292.34	425.87	484.76	2.25903	0.415	0.511	1409
70.000	529.670	1.9919	0.5020	1.5229	302.04	430.42	490.85	2.27064	0.419	0.508	1426
80.000	539.670	1.9430	0.5147	1.4788	311.58	434.98	496.92	2.28261	0.421	0.607	1442
100.000	559.670	1.8533	0.5396	1.3989	330.20	444.10	509.04	2.30405	0.426	0.605	1474
120.000	579.670	1.7729	0.5640	1.3283	348.32	453.26	521.15	2.32531	0.433	0.506	1503
140.000	599.670	1.7003	0.5881	1.2655	365.99	462.45	533.28	2.34588	0.439	0.507	1531
160.000	619.670	1.6343	0.6119	1.2090	383.29	471.80	545.45	2.36585	0.447	0.510	1558
180.000	639.670	1.5733	0.6354	1.1580	400.25	481.22	557.70	2.38530	0.454	0.514	1584
200.000	659.670	1.5183	0.6586	1.1115	416.92	490.76	570.04	2.40429	0.462	0.519	1609
220.000	679.670	1.4670	0.6817	1.0691	433.33	500.43	582.48	2.42287	0.471	0.525	1633
240.000	699.670	1.4195	0.7045	1.0300	449.50	510.24	595.03	2.44108	0.479	0.531	1656
260.000	719.670	1.3733	0.7277	0.9907	461.26	520.32	607.55	2.45953	0.487	0.545	1700
280.000	739.670	1.2599	0.7943	0.9008	512.33	551.04	646.64	2.51088	0.516	0.650	1743
300.000	759.670	1.1927	0.8384	0.8485	542.84	572.44	673.35	2.54430	0.535	0.576	1783
320.000	779.670	1.1335	0.8822	0.8023	572.87	594.54	700.73	2.57689	0.553	0.693	1823
340.000	799.670	1.0803	0.9256	0.7612	602.51	617.35	728.76	2.60877	0.572	0.709	1860

METHANE ISOBAR AT P = 700.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-294.234	165.436	28.285	0.03535	165.741	3713.76	93.51	98.09	1.01424	0.498	0.782	5195
-290.000	169.670	28.091	0.03560	161.018	3586.82	96.67	101.29	1.03422	0.497	0.785	5122
-280.000	179.670	27.638	0.03618	150.378	3298.18	104.26	108.95	1.07949	0.498	0.797	4944
-270.000	189.670	27.178	0.03679	140.325	3015.75	112.07	116.83	1.12301	0.500	0.810	4760
-260.000	199.670	26.707	0.03744	130.811	2742.64	120.06	124.91	1.16494	0.498	0.822	4578
-250.000	209.670	26.223	0.03813	121.781	2480.87	128.18	133.13	1.20533	0.494	0.831	4399
-240.000	219.670	25.724	0.03887	113.183	2231.51	136.42	141.46	1.24427	0.487	0.840	4222
-230.000	229.670	25.208	0.03967	104.965	1995.05	144.76	149.90	1.28190	0.481	0.851	4043
-220.000	239.670	24.671	0.04053	97.082	1771.36	153.21	158.47	1.31843	0.476	0.864	3859
-210.000	249.670	24.111	0.04148	89.490	1559.92	161.81	167.19	1.35409	0.473	0.881	3669
-200.000	259.670	23.522	0.04251	82.148	1359.91	170.60	176.11	1.38911	0.472	0.903	3473
-190.000	269.670	22.900	0.04367	75.014	1170.33	179.60	185.26	1.42369	0.470	0.928	3272
-180.000	279.670	22.237	0.04497	68.044	990.20	188.85	194.68	1.45788	0.466	0.956	3066
-170.000	289.670	21.521	0.04647	61.185	818.61	198.38	204.40	1.49213	0.459	0.989	2857
-160.000	299.670	20.735	0.04823	54.368	654.92	208.24	214.49	1.52637	0.449	1.132	2640
-150.000	309.670	19.848	0.05038	47.496	498.83	218.58	225.11	1.56122	0.440	1.098	2403
-140.000	319.670	18.805	0.05318	40.411	350.55	229.77	236.66	1.59788	0.444	1.223	2116
-130.000	329.670	17.479	0.05721	32.793	210.84	242.53	249.95	1.63879	0.449	1.468	1788
-120.000	339.670	15.418	0.05486	23.659	80.22	259.30	267.71	1.69181	0.473	2.319	1350
-110.000	349.670	6.481	0.15430	6.988	25.94	319.49	339.49	1.89962	0.522	3.423	868
-100.000	359.670	5.084	0.19669	5.037	61.33	335.31	360.80	1.95982	0.464	1.529	968
-90.000	369.670	4.459	0.22424	4.217	86.79	344.81	373.88	1.99571	0.443	1.148	1021
-80.000	379.670	4.053	0.24675	3.708	107.95	352.43	384.41	2.02383	0.431	0.976	1064
-70.000	389.670	3.752	0.26652	3.347	126.52	359.09	393.64	2.04783	0.423	0.977	1102
-60.000	399.670	3.514	0.28455	3.070	143.30	365.18	402.07	2.06918	0.418	0.912	1136
-50.000	409.670	3.318	0.31135	2.849	158.76	370.89	409.95	2.08867	0.415	0.767	1166
-40.000	419.670	3.152	0.31722	2.666	173.20	376.33	417.45	2.10674	0.412	0.733	1195
-30.000	429.670	3.009	0.33238	2.512	186.84	381.56	424.64	2.12370	0.411	0.707	1221
-20.000	439.670	2.882	0.34697	2.379	199.81	386.64	431.61	2.13973	0.410	0.687	1246
-10.000	449.670	2.769	0.36108	2.262	212.22	391.60	438.40	2.15500	0.409	0.671	1270
0.000	459.670	2.668	0.37479	2.159	224.16	396.47	445.05	2.16962	0.410	0.658	1292
10.000	469.670	2.576	0.38816	2.068	235.69	401.26	451.58	2.18367	0.410	0.648	1313
20.000	479.670	2.492	0.40124	1.985	246.87	406.00	458.01	2.19722	0.411	0.639	1334
30.000	489.670	2.415	0.41406	1.910	257.74	410.69	464.36	2.21033	0.412	0.632	1353
40.000	499.670	2.344	0.42665	1.841	268.33	415.35	470.66	2.22305	0.414	0.626	1372
50.000	509.670	2.278	0.43905	1.779	278.67	419.99	476.90	2.23542	0.415	0.622	1390
60.000	519.670	2.216	0.45127	1.721	288.80	424.60	483.10	2.24747	0.417	0.618	1408
70.000	529.670	2.158	0.46332	1.667	298.73	429.21	489.26	2.25922	0.420	0.615	1425
80.000	539.670	2.104	0.47523	1.617	308.47	433.81	495.41	2.27071	0.422	0.613	1441
100.000	559.670	2.005	0.48867	1.528	327.48	443.01	507.65	2.29298	0.427	0.611	1473
120.000	579.670	1.917	0.52166	1.449	345.93	452.24	519.86	2.31442	0.433	0.611	1503
140.000	599.670	1.837	0.54427	1.379	363.91	461.53	532.08	2.33515	0.440	0.612	1531
160.000	619.670	1.765	0.56656	1.316	381.47	470.91	544.34	2.35526	0.447	0.614	1558
180.000	639.670	1.699	0.58857	1.259	398.68	480.38	556.67	2.37484	0.455	0.618	1584
200.000	659.670	1.638	0.61034	1.208	415.57	489.96	569.07	2.39393	0.463	0.623	1609
220.000	679.670	1.583	0.63189	1.161	432.19	499.67	581.58	2.41260	0.471	0.628	1633
240.000	699.670	1.531	0.65324	1.118	448.55	509.52	594.19	2.43090	0.480	0.634	1657
280.000	739.670	1.438	0.69545	1.041	480.64	529.66	619.81	2.46650	0.498	0.647	1702
320.000	779.670	1.357	0.73711	0.976	512.00	550.44	645.99	2.50096	0.516	0.662	1744
360.000	819.670	1.285	0.77831	0.918	542.76	571.90	672.78	2.53447	0.535	0.678	1785
400.000	859.670	1.221	0.81912	0.868	573.01	594.04	700.22	2.56715	0.554	0.694	1824
440.000	899.670	1.163	0.85961	0.823	602.84	616.90	728.32	2.59910	0.573	0.711	1862

METHANE ISOBAR AT P = 750.0 PSI

T	T	DEN	VOL	OP/DT	OP/DO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/DO	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-294.077	165.593	28.292	0.03535	165.653	3720.11	93.54	98.45	1.01446	0.499	0.781	5196
-290.000	169.670	28.105	0.03558	161.117	3598.03	96.59	101.53	1.03369	0.498	0.785	5127
-280.000	179.670	27.654	0.03616	150.505	3310.47	104.16	109.18	1.07894	0.499	0.796	4949
-270.000	189.670	27.195	0.03677	140.479	3028.94	111.96	117.07	1.12243	0.500	0.809	4766
-260.000	199.670	26.725	0.03742	130.990	2756.62	119.94	125.13	1.16432	0.499	0.821	4585
-250.000	209.670	26.243	0.03810	121.986	2495.53	128.05	133.34	1.20467	0.494	0.830	4408
-240.000	219.670	25.747	0.03884	113.414	2246.79	136.27	141.66	1.24356	0.488	0.839	4231
-230.000	229.670	25.233	0.03963	105.224	2010.92	144.59	150.09	1.28113	0.482	0.849	4054
-220.000	239.670	24.699	0.04049	97.371	1787.83	153.02	158.64	1.31760	0.477	0.862	3871
-210.000	249.670	24.143	0.04142	89.812	1577.01	161.59	167.35	1.35318	0.474	0.879	3683
-200.000	259.670	23.559	0.04245	82.508	1377.69	170.35	176.24	1.38811	0.472	0.900	3489
-190.000	269.670	22.943	0.04359	75.417	1188.90	179.31	185.36	1.42257	0.470	0.924	3290
-180.000	279.670	22.287	0.04487	68.499	1009.69	188.51	194.74	1.45965	0.467	0.951	3088
-170.000	289.670	21.582	0.04634	61.704	839.21	197.97	204.40	1.49065	0.460	0.982	2882
-160.000	299.670	20.810	0.04805	54.973	676.84	207.74	214.41	1.52461	0.449	1.021	2670
-150.000	309.670	19.946	0.05013	48.221	522.38	217.93	224.90	1.55903	0.439	1.081	2440
-140.000	319.670	18.943	0.05279	41.320	376.13	228.89	236.22	1.59496	0.443	1.192	2165
-130.000	329.670	17.701	0.05649	34.042	239.18	241.16	249.01	1.63434	0.446	1.390	1858
-120.000	339.670	15.938	0.05275	25.826	113.44	256.30	265.01	1.68213	0.462	1.918	1477
-110.000	349.670	10.557	0.03472	12.540	8.87	291.96	305.11	1.79794	0.562	10.867	891
-100.000	359.670	6.029	0.16585	6.245	45.29	327.94	350.97	1.92783	0.482	2.059	947
-90.000	369.670	5.084	0.13670	4.969	73.72	339.88	367.20	1.97238	0.452	1.340	1006
-80.000	379.670	4.542	0.22017	4.272	96.72	348.56	379.14	2.00426	0.437	1.080	1052
-70.000	389.670	4.164	0.24018	3.804	116.63	355.85	389.20	2.03043	0.428	0.945	1092
-60.000	399.670	3.875	0.25810	3.458	134.46	362.36	398.20	2.05323	0.422	0.861	1127
-50.000	409.670	3.642	0.27460	3.188	150.77	368.37	406.50	2.07375	0.418	0.803	1159
-40.000	419.670	3.447	0.29008	2.969	165.94	374.04	414.32	2.09261	0.415	0.762	1188
-30.000	429.670	3.281	0.30478	2.785	180.18	379.46	421.78	2.11018	0.413	0.731	1216
-20.000	439.670	3.136	0.31885	2.629	193.68	384.69	428.97	2.12672	0.412	0.707	1241
-10.000	449.670	3.008	0.33241	2.494	206.56	389.78	435.94	2.14240	0.411	0.688	1266
0.000	459.670	2.894	0.34556	2.375	218.92	394.76	442.75	2.15736	0.411	0.673	1289
10.000	469.670	2.791	0.35834	2.269	230.83	399.65	449.41	2.17171	0.412	0.661	1310
20.000	479.670	2.697	0.37082	2.175	242.34	404.47	455.97	2.18552	0.412	0.651	1331
30.000	489.670	2.611	0.38303	2.090	253.52	409.24	462.43	2.19886	0.413	0.642	1351
40.000	499.670	2.532	0.39502	2.012	264.40	413.96	468.82	2.21178	0.415	0.636	1370
50.000	509.670	2.458	0.40679	1.941	275.00	418.66	475.15	2.22432	0.416	0.630	1389
60.000	519.670	2.390	0.41838	1.876	285.37	423.33	481.43	2.23653	0.418	0.626	1407
70.000	529.670	2.327	0.42981	1.816	295.52	427.99	487.68	2.24843	0.420	0.623	1424
80.000	539.670	2.267	0.44109	1.760	305.48	432.63	493.89	2.26005	0.423	0.620	1441
100.000	559.670	2.159	0.46325	1.660	324.86	441.92	506.25	2.28254	0.428	0.617	1472
120.000	579.670	2.062	0.48497	1.572	343.65	451.22	518.58	2.30417	0.434	0.616	1503
140.000	599.670	1.975	0.50630	1.494	361.92	460.58	530.89	2.32505	0.441	0.616	1531
160.000	619.670	1.896	0.52731	1.425	379.76	470.01	543.24	2.34532	0.448	0.618	1559
180.000	639.670	1.825	0.54804	1.362	397.21	479.53	555.64	2.36501	0.456	0.622	1585
200.000	659.670	1.759	0.56852	1.305	414.32	489.16	568.11	2.38421	0.463	0.626	1610
220.000	679.670	1.698	0.58879	1.254	431.14	498.91	580.68	2.40298	0.472	0.631	1634
240.000	699.670	1.642	0.60886	1.207	447.69	508.80	593.35	2.42136	0.480	0.637	1658
280.000	739.670	1.542	0.64851	1.123	480.10	529.01	619.07	2.45710	0.498	0.650	1703
320.000	779.670	1.454	0.68760	1.051	511.74	549.85	645.34	2.49168	0.517	0.664	1746
360.000	819.670	1.377	0.72624	0.989	542.74	571.35	672.21	2.52529	0.535	0.680	1787
400.000	859.670	1.309	0.76449	0.934	573.21	593.55	699.72	2.55805	0.554	0.696	1826
440.000	899.670	1.246	0.80242	0.885	603.22	616.44	727.88	2.59006	0.573	0.712	1864

METHANE ISOBAR AT P = 300.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	F BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-293.919	165.751	28.299	0.03534	165.566	3726.43	93.57	98.81	1.01467	0.499	0.781	5198
-290.000	169.670	28.118	0.03556	161.216	3609.18	96.50	101.77	1.03317	0.498	0.784	5131
-280.000	179.670	27.669	0.03614	150.631	3322.70	104.06	109.42	1.07839	0.499	0.796	4954
-270.000	189.670	27.211	0.03675	140.631	3042.08	111.85	117.30	1.12185	0.500	0.809	4773
-260.000	199.670	26.743	0.03739	131.168	2770.53	119.82	125.36	1.16371	0.499	0.820	4593
-250.000	209.670	26.263	0.03808	122.189	2510.12	127.91	133.56	1.20401	0.495	0.829	4416
-240.000	219.670	25.769	0.03881	113.643	2262.00	136.12	141.87	1.24285	0.488	0.838	4241
-230.000	229.670	25.258	0.03959	105.481	2026.72	144.42	150.28	1.28038	0.482	0.848	4064
-220.000	239.670	24.727	0.04044	97.657	1804.20	152.83	158.82	1.31677	0.477	0.861	3884
-210.000	249.670	24.174	0.04137	90.131	1594.00	161.38	167.50	1.35228	0.474	0.877	3697
-200.000	259.670	23.595	0.04238	82.862	1395.34	170.10	176.38	1.38711	0.472	0.896	3504
-190.000	269.670	22.985	0.04351	75.814	1207.31	179.02	185.47	1.42146	0.471	0.921	3308
-180.000	279.670	22.335	0.04477	68.946	1028.99	188.17	194.80	1.45545	0.467	0.947	3108
-170.000	289.670	21.641	0.04621	62.212	859.55	197.57	204.41	1.48920	0.460	0.976	2906
-160.000	299.670	20.883	0.04789	55.560	698.42	207.25	214.34	1.52290	0.450	1.012	2699
-150.000	309.670	20.040	0.04990	48.917	545.44	217.32	224.71	1.55692	0.439	1.066	2476
-140.000	319.670	19.072	0.05243	42.180	400.99	228.06	235.82	1.59220	0.442	1.165	2211
-130.000	329.670	17.899	0.05587	35.176	266.30	239.93	248.21	1.63034	0.445	1.330	1921
-120.000	339.670	16.328	0.06125	27.561	143.71	254.00	263.07	1.67472	0.456	1.703	1577
-110.000	349.670	13.471	0.07423	18.144	37.45	275.16	286.16	1.74159	0.497	3.634	1126
-100.000	359.670	7.385	0.13541	8.039	29.73	317.96	338.02	1.88793	0.506	3.161	928
-90.000	369.670	5.828	0.17157	5.901	61.11	334.18	359.60	1.94720	0.464	1.612	992
-80.000	379.670	5.091	0.19644	4.926	85.79	344.32	373.42	1.98411	0.445	1.212	1041
-70.000	389.670	4.611	0.21686	4.317	106.95	352.38	384.50	2.01294	0.433	1.025	1082
-60.000	399.670	4.259	0.23480	3.885	125.79	359.38	394.16	2.03742	0.426	0.916	1119
-50.000	409.670	3.982	0.25112	3.556	142.93	365.74	402.94	2.05911	0.421	0.844	1152
-40.000	419.670	3.755	0.26629	3.293	158.80	371.67	411.12	2.07884	0.419	0.794	1183
-30.000	429.670	3.564	0.28060	3.077	173.64	377.29	418.86	2.09708	0.415	0.757	1211
-20.000	439.670	3.399	0.29424	2.894	187.67	382.69	426.28	2.11415	0.414	0.728	1237
-10.000	449.670	3.254	0.30734	2.737	201.02	387.92	433.45	2.13027	0.413	0.706	1262
0.000	459.670	3.125	0.32000	2.601	213.79	393.02	440.42	2.14561	0.413	0.689	1285
10.000	469.670	3.010	0.33228	2.480	225.07	398.01	447.23	2.16027	0.413	0.674	1308
20.000	479.670	2.905	0.34424	2.373	237.93	402.92	453.91	2.17434	0.414	0.653	1329
30.000	489.670	2.810	0.35593	2.276	249.41	407.77	460.49	2.18792	0.415	0.653	1349
40.000	499.670	2.722	0.36737	2.188	260.57	412.56	466.98	2.20164	0.416	0.645	1369
50.000	509.670	2.641	0.37860	2.109	271.44	417.32	473.41	2.21377	0.418	0.639	1388
60.000	519.670	2.566	0.38965	2.036	282.05	422.05	479.77	2.22613	0.419	0.634	1406
70.000	529.670	2.497	0.40053	1.969	292.42	426.76	486.09	2.23818	0.421	0.630	1423
80.000	539.670	2.432	0.41125	1.906	302.58	431.45	492.37	2.24993	0.424	0.627	1440
100.000	559.670	2.313	0.43231	1.795	322.35	440.82	504.86	2.27265	0.429	0.623	1472
120.000	579.670	2.208	0.45291	1.698	341.46	450.20	517.29	2.29448	0.435	0.621	1503
140.000	599.670	2.114	0.47312	1.612	360.03	459.62	529.71	2.31553	0.441	0.621	1532
160.000	619.670	2.028	0.49301	1.535	378.13	469.10	542.14	2.33592	0.449	0.622	1559
180.000	639.670	1.951	0.51262	1.467	395.82	478.68	554.61	2.35574	0.456	0.625	1586
200.000	659.670	1.883	0.53197	1.405	413.15	488.35	567.16	2.37565	0.464	0.629	1611
220.000	679.670	1.815	0.55111	1.348	430.17	498.15	579.79	2.39391	0.472	0.634	1635
240.000	699.670	1.754	0.57006	1.297	446.90	508.07	592.52	2.41237	0.481	0.639	1659
280.000	739.670	1.645	0.60746	1.206	479.64	528.35	618.34	2.44825	0.499	0.652	1704
320.000	779.670	1.552	0.64431	1.128	511.55	549.25	644.70	2.48295	0.517	0.666	1747
360.000	819.670	1.469	0.68070	1.060	542.79	570.81	671.65	2.51666	0.536	0.681	1788
400.000	859.670	1.395	0.71671	1.000	573.46	593.05	699.22	2.54950	0.555	0.697	1828
440.000	899.670	1.329	0.75240	0.948	603.66	615.98	727.44	2.58158	0.573	0.714	1866

METHANE ISOBAR AT P = 450.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-293.762	165.908	28.305	0.03533	165.479	3732.74	93.60	99.16	1.01489	0.499	0.781	5200
-290.000	169.670	28.132	0.03555	161.313	3620.27	96.41	102.01	1.03265	0.498	0.784	5136
-280.000	179.670	27.684	0.03612	150.756	3334.88	103.97	109.65	1.07785	0.500	0.795	4960
-270.000	189.670	27.227	0.03673	140.782	3055.17	111.75	117.53	1.12128	0.501	0.808	4779
-260.000	199.670	26.761	0.03737	131.344	2784.39	119.70	125.58	1.16309	0.499	0.819	4600
-250.000	209.670	26.283	0.03805	122.391	2524.66	127.72	133.77	1.20336	0.495	0.828	4425
-240.000	219.670	25.791	0.03877	113.871	2277.15	135.97	142.07	1.24216	0.489	0.837	4250
-230.000	229.670	25.282	0.03955	105.736	2042.44	144.25	150.48	1.27962	0.482	0.847	4075
-220.000	239.670	24.755	0.04040	97.941	1820.50	152.64	159.00	1.31596	0.477	0.859	3896
-210.000	249.670	24.205	0.04131	90.446	1610.88	161.16	167.66	1.35139	0.474	0.875	3710
-200.000	259.670	23.630	0.04232	83.213	1412.87	169.85	176.51	1.38613	0.473	0.895	3520
-190.000	269.670	23.026	0.04343	76.205	1225.58	178.74	185.57	1.42036	0.471	0.918	3325
-180.000	279.670	22.384	0.04467	69.384	1048.11	187.84	194.87	1.45421	0.468	0.942	3128
-170.000	289.670	21.698	0.04609	62.709	879.65	197.18	204.43	1.48778	0.460	0.970	2930
-160.000	299.670	20.953	0.04773	56.132	719.68	206.77	214.28	1.52123	0.450	1.003	2727
-150.000	309.670	20.130	0.04968	49.589	568.06	216.72	224.54	1.55489	0.439	1.052	2510
-140.000	319.670	19.193	0.05210	42.995	425.22	227.27	235.47	1.58960	0.442	1.141	2255
-130.000	329.670	18.078	0.05531	36.222	292.41	238.81	247.52	1.62668	0.443	1.282	1979
-120.000	339.670	16.645	0.06008	29.043	172.10	252.10	261.55	1.66861	0.452	1.564	1662
-110.000	349.670	14.437	0.06927	20.923	68.69	269.67	280.57	1.72371	0.476	2.456	1281
-100.000	359.670	9.451	0.11581	10.926	22.63	304.06	320.71	1.83673	0.523	4.456	945
-90.000	369.670	6.738	0.14841	7.080	49.45	327.48	350.84	1.91950	0.475	2.704	983
-80.000	379.670	5.712	0.17507	5.693	75.48	339.63	367.18	1.96316	0.452	1.377	1032
-70.000	389.670	5.100	0.19606	4.896	97.69	348.66	379.52	1.99524	0.439	1.119	1075
-60.000	399.670	4.673	0.21411	4.356	117.41	356.24	389.94	2.02167	0.430	0.978	1112
-50.000	409.670	4.342	0.23032	3.955	135.32	363.00	399.25	2.04468	0.424	0.889	1146
-40.000	419.670	4.077	0.24526	3.641	151.84	369.22	407.83	2.06535	0.420	0.828	1178
-30.000	429.670	3.857	0.25926	3.387	167.27	375.07	415.88	2.08432	0.418	0.784	1206
-20.000	439.670	3.663	0.27254	3.174	181.81	380.65	423.55	2.10197	0.416	0.751	1233
-10.000	449.670	3.506	0.28524	2.994	195.61	386.03	430.92	2.11856	0.415	0.725	1259
0.000	459.670	3.362	0.29747	2.837	208.79	391.25	438.07	2.13428	0.414	0.705	1283
10.000	469.670	3.233	0.30931	2.700	221.44	396.35	445.03	2.14926	0.414	0.688	1305
20.000	479.670	3.117	0.32082	2.578	233.63	401.35	451.85	2.16362	0.415	0.675	1327
30.000	489.670	3.012	0.33204	2.469	245.42	406.28	458.54	2.17743	0.416	0.664	1348
40.000	499.670	2.915	0.34302	2.371	256.85	411.15	465.14	2.19077	0.417	0.655	1367
50.000	509.670	2.827	0.35377	2.282	267.98	415.97	471.65	2.20368	0.419	0.648	1386
60.000	519.670	2.745	0.36434	2.200	278.83	420.76	478.10	2.21622	0.420	0.642	1405
70.000	529.670	2.669	0.37473	2.126	289.42	425.52	484.50	2.22841	0.422	0.637	1422
80.000	539.670	2.598	0.38497	2.057	299.79	430.26	490.86	2.24029	0.425	0.634	1440
100.000	559.670	2.463	0.40504	1.933	319.93	439.72	503.47	2.26325	0.430	0.629	1472
120.000	579.670	2.355	0.42466	1.826	339.37	449.17	516.01	2.28527	0.436	0.626	1503
140.000	599.670	2.253	0.44388	1.732	358.23	458.66	528.53	2.30649	0.442	0.625	1532
160.000	619.670	2.161	0.46278	1.648	376.60	468.20	541.04	2.32702	0.449	0.627	1560
180.000	639.670	2.077	0.48139	1.573	394.52	477.83	553.60	2.34696	0.457	0.629	1587
200.000	659.670	2.001	0.49976	1.506	412.07	487.55	566.21	2.36637	0.465	0.633	1612
220.000	679.670	1.931	0.51790	1.444	429.28	497.39	578.90	2.38533	0.473	0.637	1637
240.000	699.670	1.865	0.53586	1.388	446.19	507.35	591.69	2.40387	0.482	0.642	1660
260.000	719.670	1.750	0.57127	1.289	479.24	527.70	617.61	2.43990	0.499	0.654	1706
320.000	779.670	1.650	0.61613	1.205	511.43	548.66	644.06	2.47472	0.518	0.668	1749
360.000	819.670	1.561	0.64054	1.132	542.90	570.27	671.08	2.50851	0.536	0.683	1796
400.000	859.670	1.482	0.67456	1.067	573.77	592.55	698.73	2.54144	0.555	0.699	1830
440.000	899.670	1.412	0.70827	1.011	604.15	615.52	727.01	2.57359	0.574	0.715	1868

METHANE ISOBAR AT P = 300.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/CUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-293.605	166.065	28.312	0.03532	165.392	3739.01	93.63	99.52	1.01511	0.500	0.780	5201
-290.000	169.670	28.146	0.03553	161.409	3631.31	96.33	102.25	1.03213	0.499	0.783	5140
-280.000	179.670	27.699	0.03610	150.880	3346.99	103.87	109.89	1.07730	0.500	0.795	4965
-270.000	189.670	27.244	0.03671	140.932	3068.19	111.64	117.76	1.12070	0.501	0.808	4786
-260.000	199.670	26.779	0.03734	131.519	2798.20	119.58	125.80	1.16249	0.500	0.819	4608
-250.000	209.670	26.303	0.03802	122.591	2539.14	127.65	133.99	1.20271	0.495	0.828	4433
-240.000	219.670	25.813	0.03874	114.096	2292.24	135.82	142.28	1.24146	0.489	0.836	4260
-230.000	229.670	25.307	0.03952	105.988	2058.09	144.09	150.67	1.27888	0.483	0.845	4086
-220.000	239.670	24.782	0.04035	98.221	1836.71	152.45	159.18	1.31515	0.478	0.857	3907
-210.000	249.670	24.236	0.04126	90.757	1627.67	160.95	167.83	1.35051	0.475	0.873	3724
-200.000	259.670	23.666	0.04226	83.559	1430.29	169.61	176.65	1.38516	0.473	0.892	3535
-190.000	269.670	23.066	0.04335	76.590	1243.71	178.46	185.68	1.41929	0.472	0.914	3342
-180.000	279.670	22.432	0.04458	69.815	1067.04	187.52	194.95	1.45300	0.468	0.938	3148
-170.000	289.670	21.754	0.04597	63.196	899.52	196.79	204.45	1.48640	0.461	0.964	2953
-160.000	299.670	21.022	0.04757	56.688	740.64	206.31	214.24	1.51961	0.450	0.995	2754
-150.000	309.670	20.216	0.04947	50.238	590.28	216.15	224.39	1.55293	0.439	1.039	2543
-140.000	319.670	19.307	0.05179	43.773	448.88	226.53	235.16	1.58711	0.442	1.120	2296
-130.000	329.670	18.242	0.05482	37.196	317.69	237.78	246.91	1.62330	0.442	1.241	2032
-120.000	339.670	16.915	0.05912	30.353	199.12	250.46	260.32	1.66334	0.448	1.466	1736
-110.000	349.670	15.044	0.06647	22.967	97.27	266.15	277.23	1.71237	0.465	2.017	1398
-100.000	359.670	11.467	0.08721	14.252	28.45	291.77	306.30	1.79420	0.501	4.117	1041
-90.000	369.670	7.872	0.12704	8.611	39.64	319.53	340.70	1.88863	0.486	7.553	982
-80.000	379.670	6.420	0.15576	6.597	66.12	334.44	360.40	1.94126	0.459	1.582	1027
-70.000	389.670	5.637	0.17741	5.552	89.08	344.66	374.23	1.97724	0.444	1.230	1069
-60.000	399.670	5.111	0.19564	4.875	109.49	352.94	385.54	2.00591	0.434	1.049	1107
-50.000	409.670	4.722	0.21179	4.389	128.05	360.15	395.44	2.03039	0.428	0.939	1142
-40.000	419.670	4.414	0.22655	4.015	145.16	366.69	404.45	2.05211	0.423	0.866	1173
-30.000	429.670	4.162	0.24029	3.717	161.12	372.79	412.83	2.07186	0.420	0.814	1203
-20.000	439.670	3.949	0.25325	3.471	176.13	378.56	420.77	2.09012	0.418	0.775	1230
-10.000	449.670	3.765	0.26561	3.263	190.36	384.10	428.36	2.10720	0.417	0.745	1256
0.000	459.670	3.604	0.27747	3.085	203.93	389.45	435.69	2.12332	0.416	0.722	1280
10.000	469.670	3.461	0.28892	2.929	216.94	394.66	442.81	2.13865	0.416	0.703	1303
20.000	479.670	3.333	0.31003	2.792	229.45	399.76	449.77	2.15330	0.416	0.688	1325
30.000	489.670	3.217	0.31084	2.670	241.54	404.78	456.58	2.16735	0.417	0.676	1346
40.000	499.670	3.111	0.32140	2.560	253.25	409.72	463.29	2.18091	0.418	0.666	1366
50.000	509.670	3.014	0.33174	2.461	264.63	414.61	469.90	2.19402	0.420	0.657	1386
60.000	519.670	2.925	0.34187	2.370	275.71	419.46	476.44	2.20672	0.421	0.651	1404
70.000	529.670	2.842	0.35184	2.287	286.52	424.28	482.91	2.21906	0.423	0.645	1422
80.000	539.670	2.765	0.36164	2.211	297.09	429.07	489.34	2.23109	0.426	0.641	1439
100.000	559.670	2.626	0.38085	2.075	317.60	438.62	502.09	2.25428	0.431	0.634	1472
120.000	579.670	2.503	0.39958	1.958	337.37	448.15	514.74	2.27649	0.436	0.631	1503
140.000	599.670	2.393	0.41793	1.855	356.52	457.70	527.35	2.29787	0.443	0.630	1533
160.000	619.670	2.294	0.43594	1.763	375.14	467.30	539.95	2.31855	0.450	0.631	1561
180.000	639.670	2.204	0.45367	1.681	393.30	476.98	552.58	2.33861	0.457	0.633	1588
200.000	659.670	2.122	0.47115	1.608	411.06	486.75	565.27	2.35813	0.465	0.636	1613
220.000	679.670	2.047	0.48841	1.541	428.47	496.63	578.02	2.37718	0.474	0.640	1638
240.000	699.670	1.978	0.50548	1.481	445.55	506.63	590.87	2.39581	0.482	0.645	1662
280.000	739.670	1.855	0.53913	1.374	478.92	527.05	616.89	2.43198	0.500	0.657	1707
320.000	779.670	1.748	0.57222	1.283	511.37	548.06	643.43	2.46691	0.518	0.670	1751
360.000	819.670	1.653	0.61486	1.204	543.07	569.72	670.53	2.50080	0.537	0.685	1792
400.000	859.670	1.570	0.63712	1.135	574.14	592.05	698.24	2.53381	0.556	0.701	1831
440.000	899.670	1.495	0.65907	1.074	604.69	615.07	726.57	2.56602	0.574	0.716	1870

METHANE ISOBAR AT P = 1000.0 PSI

T	T	DEN	VOL	CP/DT	DP/DO	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LR	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/L3/R	FT/S
-293.291	166.379	28.325	0.03530	165.219	3751.50	93.70	100.23	1.01554	0.501	0.780	5204
-290.000	169.670	28.174	0.03549	161.599	3653.20	96.16	102.73	1.03109	0.500	0.783	5149
-280.000	179.670	27.723	0.03606	151.125	3371.07	103.69	110.36	1.07622	0.501	0.794	4976
-270.000	189.670	27.276	0.03666	141.228	3094.09	111.43	118.22	1.11956	0.502	0.806	4798
-260.000	199.670	26.815	0.03729	131.865	2825.63	119.35	126.25	1.16128	0.501	0.817	4622
-250.000	209.670	26.342	0.03796	122.986	2567.91	127.39	134.42	1.20143	0.496	0.826	4449
-240.000	219.670	25.856	0.03868	114.541	2322.21	135.53	142.69	1.24009	0.490	0.834	4279
-230.000	229.670	25.355	0.03944	106.485	2089.18	143.76	151.06	1.27740	0.484	0.843	4107
-220.000	239.670	24.836	0.04026	98.774	1868.88	152.09	159.54	1.31355	0.479	0.854	3931
-210.000	249.670	24.297	0.04116	91.370	1660.97	160.53	168.15	1.34876	0.476	0.869	3750
-200.000	259.670	23.735	0.04213	84.237	1464.79	169.14	176.94	1.38325	0.474	0.888	3565
-190.000	269.670	23.145	0.04321	77.343	1279.54	177.91	185.92	1.41717	0.472	0.908	3376
-180.000	279.670	22.524	0.04440	70.655	1104.40	186.88	195.11	1.45063	0.469	0.930	3187
-170.000	289.670	21.863	0.04574	64.140	938.62	196.05	204.52	1.48370	0.461	0.953	2998
-160.000	299.670	21.153	0.04727	57.760	781.73	205.43	214.18	1.51648	0.450	0.980	2807
-150.000	309.670	20.379	0.04907	51.474	633.62	215.06	224.15	1.54920	0.440	1.017	2606
-140.000	319.670	19.519	0.05123	45.232	494.72	225.15	234.63	1.58248	0.441	1.084	2373
-130.000	329.670	18.535	0.05395	38.973	366.19	235.92	245.91	1.61720	0.441	1.178	2129
-120.000	339.670	17.361	0.05760	32.623	250.13	247.72	258.39	1.65448	0.444	1.332	1864
-110.000	349.670	15.863	0.06304	26.098	149.92	261.31	272.99	1.69682	0.454	1.523	1576
-100.000	359.670	13.707	0.07296	19.276	70.95	278.64	292.15	1.75080	0.472	2.328	1274
-90.000	369.670	10.484	0.09539	12.607	41.46	302.66	320.32	1.82802	0.485	2.973	1066
-80.000	379.670	8.133	0.12286	8.936	52.38	322.51	345.26	1.89462	0.472	2.089	1037
-70.000	389.670	6.867	0.14563	7.135	74.67	335.84	362.80	1.94027	0.454	1.497	1068
-60.000	399.670	6.090	0.15420	6.083	95.69	345.80	376.21	1.97426	0.442	1.214	1103
-50.000	409.670	5.547	0.16029	5.372	115.02	354.09	387.47	2.00210	0.434	1.053	1137
-40.000	419.670	5.134	0.16476	4.849	132.96	361.39	397.45	2.02617	0.428	0.950	1169
-30.000	429.670	4.806	0.16808	4.443	149.74	368.04	406.57	2.04765	0.424	0.879	1198
-20.000	439.670	4.535	0.17053	4.115	165.54	374.25	415.09	2.06724	0.422	0.827	1226
-10.000	449.670	4.305	0.17231	3.844	180.52	380.13	423.15	2.08538	0.420	0.788	1253
0.000	459.670	4.106	0.17355	3.615	194.78	385.78	430.88	2.10237	0.419	0.758	1277
10.000	469.670	3.932	0.17435	3.417	208.43	391.23	438.33	2.11841	0.419	0.734	1301
20.000	479.670	3.777	0.17479	3.245	221.55	396.54	445.57	2.13367	0.419	0.715	1323
30.000	489.670	3.633	0.17491	3.092	234.19	401.73	452.64	2.14825	0.419	0.699	1345
40.000	499.670	3.512	0.17476	2.957	246.42	406.84	459.57	2.16225	0.420	0.687	1365
50.000	509.670	3.397	0.17438	2.835	258.28	411.87	466.38	2.17575	0.422	0.676	1385
60.000	519.670	3.292	0.17379	2.724	269.81	416.84	473.10	2.18881	0.423	0.668	1404
70.000	529.670	3.195	0.17302	2.624	281.05	421.77	479.74	2.20147	0.425	0.661	1422
80.000	539.670	3.105	0.17209	2.532	292.01	426.67	486.31	2.21377	0.427	0.655	1440
100.000	549.670	2.943	0.17181	2.369	313.24	436.40	499.32	2.23744	0.432	0.647	1473
120.000	559.670	2.801	0.17105	2.229	333.64	446.08	512.20	2.26005	0.438	0.642	1505
140.000	569.670	2.675	0.17030	2.107	353.36	455.77	525.01	2.28177	0.444	0.639	1535
160.000	579.670	2.561	0.16961	1.999	372.49	465.49	537.79	2.30273	0.451	0.639	1563
180.000	589.670	2.459	0.16903	1.903	391.11	475.27	550.57	2.32304	0.459	0.640	1590
200.000	599.670	2.366	0.16855	1.817	409.28	485.14	563.39	2.34278	0.466	0.642	1616
220.000	609.670	2.281	0.16816	1.740	427.06	495.10	576.28	2.36202	0.475	0.646	1641
240.000	619.670	2.203	0.16782	1.669	444.50	505.19	589.24	2.38081	0.483	0.650	1665
260.000	629.670	2.134	0.16752	1.596	461.47	515.47	602.17	2.40000	0.501	0.651	1711
280.000	639.670	2.064	0.16726	1.541	478.47	525.74	615.47	2.42000	0.519	0.674	1754
300.000	649.670	2.000	0.16703	1.491	494.47	536.01	629.17	2.44000	0.538	0.689	1796
320.000	659.670	1.943	0.16682	1.441	511.44	546.88	642.17	2.46000	0.556	0.704	1836
340.000	669.670	1.893	0.16662	1.391	528.44	557.75	655.17	2.48000	0.575	0.719	1874
360.000	679.670	1.847	0.16642	1.341	545.44	568.62	668.17	2.50000			
380.000	689.670	1.804	0.16622	1.291	562.44	579.49	681.17	2.52000			
400.000	699.670	1.764	0.16602	1.241	579.44	590.36	694.17	2.54000			
420.000	709.670	1.724	0.16582	1.191	596.44	601.23	707.17	2.56000			
440.000	719.670	1.684	0.16562	1.141	613.44	612.10	720.17	2.58000			

METHANE ISOBAR AT P = 1100.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-292.978	166.692	28.339	0.03529	165.047	3763.90	93.76	100.95	1.01597	0.501	0.779	5207
-290.000	169.670	28.201	0.03546	161.786	3674.87	95.99	103.21	1.03006	0.501	0.782	5157
-280.000	179.670	27.753	0.03603	151.366	3394.92	103.50	110.84	1.07514	0.502	0.793	4987
-270.000	189.670	27.308	0.03662	141.520	3119.76	111.23	118.68	1.11843	0.503	0.805	4811
-260.000	199.670	26.850	0.03724	132.205	2852.84	119.12	126.71	1.16008	0.502	0.816	4637
-250.000	209.670	26.381	0.03791	123.374	2596.45	127.14	134.86	1.20016	0.497	0.824	4466
-240.000	219.670	25.899	0.03861	114.979	2351.94	135.25	143.11	1.23873	0.491	0.832	4297
-230.000	229.670	25.402	0.03937	106.973	2120.00	143.44	151.46	1.27594	0.485	0.840	4127
-220.000	239.670	24.889	0.04018	99.316	1900.75	151.72	159.91	1.31197	0.480	0.851	3954
-210.000	249.670	24.357	0.04106	91.969	1693.90	160.13	168.49	1.34705	0.477	0.866	3776
-200.000	259.670	23.802	0.04201	84.899	1498.86	168.67	177.23	1.38138	0.475	0.883	3593
-190.000	269.670	23.222	0.04306	78.076	1314.87	177.39	186.16	1.41511	0.473	0.902	3409
-180.000	279.670	22.613	0.04422	71.469	1141.11	186.28	195.28	1.44833	0.469	0.923	3224
-170.000	289.670	21.968	0.04552	65.048	976.92	195.34	204.61	1.48110	0.462	0.943	3041
-160.000	299.670	21.278	0.04700	58.783	821.81	204.58	214.16	1.51349	0.451	0.966	2857
-150.000	309.670	20.532	0.04870	52.640	675.66	214.04	223.96	1.54568	0.440	0.998	2665
-140.000	319.670	19.713	0.05073	46.583	538.87	223.88	234.21	1.57820	0.441	1.055	2443
-130.000	329.670	18.792	0.05321	40.573	412.43	234.27	245.11	1.61176	0.440	1.130	2216
-120.000	339.670	17.727	0.05641	34.574	298.17	245.44	256.93	1.64709	0.442	1.244	1973
-110.000	349.670	16.440	0.06083	28.564	198.78	257.83	270.23	1.68564	0.447	1.431	1716
-100.000	359.670	14.787	0.06763	22.550	117.82	272.28	286.05	1.73025	0.458	1.773	1453
-90.000	369.670	12.512	0.07993	16.600	63.07	290.41	306.69	1.78680	0.472	2.382	1215
-80.000	379.670	10.027	0.09973	11.864	56.41	310.29	330.60	1.85063	0.473	2.218	1107
-70.000	389.670	8.302	0.12046	9.139	66.47	326.08	350.62	1.90271	0.461	1.776	1090
-60.000	399.670	7.199	0.13890	7.546	85.52	338.05	366.34	1.94257	0.449	1.399	1112
-50.000	409.670	6.459	0.15481	6.526	104.74	347.60	379.14	1.97420	0.440	1.179	1141
-40.000	419.670	5.918	0.16898	5.805	122.91	355.77	390.19	2.00087	0.433	1.042	1170
-30.000	429.670	5.497	0.18192	5.262	140.07	363.06	400.12	2.02425	0.429	0.949	1199
-20.000	439.670	5.157	0.19393	4.834	156.35	369.76	409.26	2.04529	0.426	0.883	1226
-10.000	449.670	4.873	0.20523	4.485	171.83	376.03	417.84	2.06457	0.423	0.834	1252
0.000	459.670	4.631	0.21595	4.194	186.61	381.99	425.98	2.08249	0.422	0.796	1277
10.000	469.670	4.421	0.22622	3.946	200.77	387.71	433.79	2.09929	0.421	0.767	1301
20.000	479.670	4.236	0.23609	3.733	214.39	393.24	441.34	2.11519	0.421	0.743	1324
30.000	489.670	4.071	0.24565	3.546	227.51	398.63	448.67	2.13032	0.422	0.724	1345
40.000	499.670	3.923	0.25492	3.380	240.19	403.90	455.83	2.14480	0.423	0.709	1366
50.000	509.670	3.789	0.26395	3.232	252.48	409.09	462.85	2.15871	0.424	0.696	1386
60.000	519.670	3.666	0.27276	3.099	264.42	414.19	469.75	2.17213	0.425	0.685	1405
70.000	529.670	3.554	0.28139	2.979	276.04	419.24	476.56	2.18510	0.427	0.677	1424
80.000	539.670	3.450	0.28986	2.869	287.37	424.25	483.29	2.19769	0.429	0.670	1441
100.000	559.670	3.264	0.30636	2.676	309.27	434.17	496.57	2.22185	0.434	0.659	1475
120.000	579.670	3.102	0.32238	2.511	330.28	444.02	509.68	2.24487	0.439	0.652	1507
140.000	599.670	2.959	0.33799	2.368	350.54	453.84	522.69	2.26692	0.446	0.649	1537
160.000	619.670	2.831	0.35327	2.243	370.16	463.68	535.64	2.28817	0.453	0.647	1566
180.000	639.670	2.716	0.36825	2.132	389.22	473.57	548.58	2.30873	0.460	0.647	1593
200.000	659.670	2.611	0.38298	2.032	407.79	483.53	561.54	2.32868	0.468	0.649	1619
220.000	679.670	2.516	0.39750	1.943	425.94	493.59	574.55	2.34811	0.476	0.652	1645
240.000	699.670	2.428	0.41183	1.862	443.71	503.75	587.63	2.36708	0.484	0.656	1669
260.000	739.670	2.273	0.43998	1.721	478.27	524.44	614.06	2.40381	0.502	0.666	1715
320.000	779.670	2.139	0.46759	1.602	511.75	545.70	640.94	2.43920	0.520	0.678	1759
360.000	819.670	2.021	0.493476	1.499	544.32	567.57	668.34	2.47347	0.539	0.692	1800
400.000	859.670	1.917	0.52156	1.410	576.16	590.08	696.32	2.50678	0.557	0.707	1840
440.000	899.670	1.825	0.54805	1.332	607.36	613.26	724.89	2.53927	0.576	0.722	1878

METHANE ISOBAR AT P = 1200.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-292.665	167.005	28.352	0.03527	164.877	3776.20	93.83	101.66	1.01641	0.502	0.779	5210
-290.000	169.670	28.228	0.03543	161.969	3696.30	95.83	103.70	1.02904	0.501	0.781	5166
-280.000	179.670	27.787	0.03599	151.603	3418.56	103.32	111.31	1.07407	0.502	0.792	4997
-270.000	189.670	27.340	0.03658	141.807	3145.21	111.02	119.15	1.11731	0.504	0.804	4823
-260.000	199.670	26.885	0.03720	132.540	2879.84	118.89	127.16	1.15890	0.502	0.814	4651
-250.000	209.670	26.419	0.03785	123.757	2624.76	126.88	135.30	1.19890	0.498	0.823	4482
-240.000	219.670	25.941	0.03855	115.409	2381.42	134.97	143.53	1.23739	0.492	0.830	4315
-230.000	229.670	25.449	0.03929	107.453	2150.54	143.12	151.86	1.27450	0.485	0.838	4147
-220.000	239.670	24.941	0.04009	99.847	1932.31	151.37	160.28	1.31042	0.480	0.848	3976
-210.000	249.670	24.415	0.04096	92.556	1726.48	159.73	168.83	1.34537	0.477	0.862	3801
-200.000	259.670	23.868	0.04190	85.546	1532.52	168.22	177.53	1.37955	0.476	0.879	3622
-190.000	269.670	23.298	0.04292	78.789	1349.69	176.87	186.41	1.41309	0.474	0.897	3441
-180.000	279.670	22.699	0.04405	72.257	1177.23	185.69	195.47	1.44609	0.470	0.916	3260
-170.000	289.670	22.068	0.04531	65.924	1014.49	194.66	204.73	1.47859	0.462	0.934	3082
-160.000	299.670	21.397	0.04674	59.762	860.97	203.78	214.16	1.51062	0.451	0.954	2904
-150.000	309.670	20.676	0.04837	53.744	716.56	213.08	223.83	1.54234	0.440	0.981	2720
-140.000	319.670	19.891	0.05027	47.845	581.56	222.70	233.87	1.57422	0.441	1.030	2508
-130.000	329.670	19.022	0.05257	42.037	456.85	232.78	244.46	1.60684	0.439	1.092	2294
-120.000	339.670	18.038	0.05544	36.305	343.96	243.48	255.80	1.64070	0.440	1.181	2068
-110.000	349.670	16.892	0.05920	30.648	245.06	255.00	268.22	1.67673	0.443	1.313	1834
-100.000	359.670	15.505	0.06449	25.103	162.81	267.98	282.31	1.71646	0.450	1.523	1597
-90.000	369.670	13.762	0.07266	19.748	100.64	282.96	299.11	1.76250	0.460	1.861	1373
-80.000	379.670	11.642	0.09590	14.876	69.49	300.34	319.42	1.81670	0.467	2.119	1209
-70.000	389.670	9.769	0.10237	11.446	71.81	316.61	339.35	1.86853	0.462	1.841	1152
-60.000	399.670	8.409	0.11892	9.278	81.30	329.94	356.37	1.91165	0.453	1.561	1140
-50.000	409.670	7.453	0.13423	7.864	97.93	340.81	370.64	1.94693	0.444	1.307	1156
-40.000	419.670	6.758	0.14796	6.894	115.56	349.92	382.80	1.97627	0.437	1.137	1180
-30.000	429.670	6.232	0.15047	6.180	132.61	357.90	393.56	2.00162	0.432	1.123	1205
-20.000	439.670	5.812	0.17204	5.629	148.97	365.13	403.36	2.02417	0.429	0.942	1231
-10.000	449.670	5.468	0.19289	5.188	164.66	371.82	412.46	2.04464	0.426	0.882	1256
0.000	459.670	5.177	0.19316	4.824	179.72	378.12	421.04	2.06352	0.425	0.836	1280
10.000	469.670	4.927	0.20296	4.519	194.21	384.12	429.22	2.08112	0.424	0.801	1303
20.000	479.670	4.709	0.21235	4.257	208.17	389.89	437.08	2.09768	0.424	0.772	1326
30.000	489.670	4.515	0.22142	4.030	221.65	395.49	444.69	2.11337	0.424	0.750	1348
40.000	499.670	4.344	0.23020	3.831	234.70	400.94	452.09	2.12834	0.425	0.731	1368
50.000	509.670	4.183	0.23873	3.654	247.34	406.27	459.32	2.14267	0.426	0.716	1388
60.000	519.670	4.048	0.24704	3.495	259.63	411.52	466.42	2.15646	0.427	0.703	1408
70.000	529.670	3.919	0.25517	3.353	271.58	416.70	473.40	2.16976	0.429	0.693	1426
80.000	539.670	3.801	0.26312	3.223	283.24	421.82	480.28	2.18264	0.431	0.684	1444
100.000	559.670	3.589	0.27860	2.997	305.74	431.93	493.84	2.20730	0.435	0.672	1478
120.000	579.670	3.406	0.29359	2.805	327.30	441.94	507.18	2.23073	0.441	0.663	1510
140.000	599.670	3.245	0.30817	2.639	348.07	451.91	520.39	2.25313	0.447	0.658	1541
160.000	619.670	3.102	0.32241	2.495	368.15	461.87	533.52	2.27466	0.454	0.655	1570
180.000	639.670	2.973	0.33636	2.367	387.63	471.87	546.61	2.29547	0.461	0.655	1597
200.000	659.670	2.857	0.35006	2.254	406.59	481.93	559.72	2.31564	0.469	0.656	1623
220.000	679.670	2.751	0.36354	2.152	425.09	492.07	572.85	2.33526	0.477	0.658	1649
240.000	699.670	2.654	0.37683	2.060	443.18	502.31	586.05	2.35439	0.485	0.661	1673
280.000	739.670	2.482	0.40292	1.900	478.32	523.15	612.68	2.39140	0.503	0.671	1719
320.000	779.670	2.334	0.42846	1.766	512.28	544.52	639.73	2.42702	0.521	0.682	1763
360.000	819.670	2.205	0.45357	1.651	545.27	566.49	667.28	2.46147	0.539	0.695	1805
400.000	859.670	2.091	0.47831	1.551	577.46	589.10	695.38	2.49494	0.558	0.710	1845
440.000	899.670	1.989	0.51274	1.464	608.98	612.36	724.07	2.52756	0.577	0.725	1883

METHANE ISOBAR AT P = 1300.0 PSI

T	T	DEN	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-292.353	167.317	28.365	0.03525	164.707	3788.41	93.89	102.38	1.01685	0.503	0.779	5213
-290.000	169.670	28.255	0.03539	162.148	3717.51	95.66	104.18	1.02803	0.502	0.780	5174
-280.000	179.670	27.816	0.03595	151.836	3441.96	103.13	111.79	1.07301	0.503	0.791	5007
-270.000	189.670	27.372	0.03653	142.089	3170.45	110.82	119.61	1.11620	0.505	0.803	4835
-260.000	199.670	26.919	0.03715	132.870	2906.61	118.67	127.61	1.15772	0.503	0.813	4665
-250.000	209.670	26.457	0.03780	124.133	2652.85	126.64	135.73	1.19765	0.499	0.821	4498
-240.000	219.670	25.983	0.03849	115.833	2410.66	134.69	143.95	1.23606	0.492	0.828	4333
-230.000	229.670	25.495	0.03922	107.924	2180.83	142.81	152.26	1.27308	0.485	0.836	4167
-220.000	239.670	24.993	0.04001	100.369	1963.58	151.02	160.66	1.30890	0.481	0.846	3999
-210.000	249.670	24.472	0.04086	93.130	1758.74	159.34	169.17	1.34372	0.478	0.859	3826
-200.000	259.670	23.933	0.04178	86.178	1565.78	167.78	177.84	1.37775	0.476	0.875	3649
-190.000	269.670	23.371	0.04279	79.484	1384.05	176.37	186.67	1.41112	0.475	0.892	3471
-180.000	279.670	22.783	0.04389	73.023	1212.80	185.11	195.68	1.44392	0.471	0.909	3295
-170.000	289.670	22.165	0.04512	66.770	1051.37	194.00	204.86	1.47616	0.463	0.926	3121
-160.000	299.670	21.510	0.04649	60.701	899.31	203.01	214.20	1.50787	0.452	0.943	2949
-150.000	309.670	20.812	0.04805	54.796	756.44	212.17	223.74	1.53917	0.440	0.966	2773
-140.000	319.670	20.057	0.04986	49.032	623.01	221.60	233.61	1.57049	0.441	1.009	2569
-130.000	329.670	19.231	0.05200	43.393	499.75	231.42	243.94	1.60231	0.439	1.061	2366
-120.000	339.670	18.312	0.05461	37.871	387.95	241.74	254.88	1.63501	0.439	1.132	2154
-110.000	349.670	17.266	0.05792	32.477	289.39	252.73	266.68	1.66922	0.441	1.232	1936
-100.000	359.670	16.049	0.06231	27.249	206.13	264.68	279.68	1.70587	0.445	1.377	1718
-90.000	369.670	14.600	0.06849	22.263	140.32	277.95	294.43	1.74632	0.452	1.587	1510
-80.000	379.670	12.876	0.07767	17.643	95.98	292.88	311.57	1.79205	0.459	1.834	1333
-70.000	389.670	11.071	0.09033	13.811	82.66	308.47	330.21	1.84051	0.461	1.919	1230
-60.000	399.670	9.604	0.10412	11.178	87.50	322.22	347.29	1.88380	0.453	1.599	1196
-50.000	409.670	8.485	0.11786	9.377	96.59	333.94	362.31	1.92093	0.447	1.406	1187
-40.000	419.670	7.642	0.13085	8.114	111.40	343.94	375.44	1.95260	0.440	1.227	1199
-30.000	429.670	7.002	0.14283	7.199	127.66	352.63	387.01	1.97985	0.436	1.094	1219
-20.000	439.670	6.497	0.15392	6.503	143.70	360.40	397.45	2.00388	0.432	1.000	1241
-10.000	449.670	6.086	0.16432	5.954	159.29	367.53	407.08	2.02554	0.429	0.930	1264
0.000	459.670	5.742	0.17415	5.507	174.37	374.18	416.10	2.04538	0.427	0.876	1287
10.000	469.670	5.443	0.18350	5.134	188.97	380.47	424.65	2.06378	0.426	0.835	1309
20.000	479.670	5.196	0.19247	4.818	203.11	386.50	432.83	2.08101	0.426	0.802	1331
30.000	489.670	4.973	0.20110	4.546	216.80	392.30	440.71	2.09728	0.426	0.776	1352
40.000	499.670	4.775	0.20944	4.308	230.09	397.94	448.36	2.11273	0.427	0.754	1373
50.000	509.670	4.597	0.21754	4.099	242.99	403.44	455.80	2.12749	0.428	0.736	1392
60.000	519.670	4.436	0.22542	3.913	255.54	408.83	463.09	2.14165	0.429	0.722	1412
70.000	529.670	4.290	0.23310	3.745	267.76	414.13	470.25	2.15529	0.430	0.710	1430
80.000	539.670	4.156	0.24062	3.594	279.68	419.37	477.29	2.16847	0.432	0.700	1448
100.000	549.670	3.918	0.25522	3.331	302.69	429.68	491.12	2.19363	0.437	0.684	1482
120.000	559.670	3.713	0.26933	3.110	324.75	439.86	504.70	2.21747	0.442	0.674	1514
140.000	569.670	3.533	0.28303	2.920	345.97	449.97	518.11	2.24021	0.448	0.667	1545
160.000	579.670	3.374	0.29639	2.755	366.48	460.07	531.41	2.26204	0.455	0.664	1574
180.000	589.670	3.231	0.30946	2.610	386.35	470.18	544.67	2.28309	0.462	0.662	1601
200.000	599.670	3.103	0.32228	2.481	405.67	480.33	557.91	2.30348	0.470	0.662	1628
220.000	609.670	2.986	0.33488	2.366	424.51	490.56	571.18	2.32329	0.478	0.664	1653
240.000	619.670	2.879	0.34729	2.263	442.91	500.88	584.48	2.34258	0.486	0.667	1678
260.000	629.670	2.691	0.37162	2.083	478.59	521.86	611.32	2.37988	0.504	0.675	1724
320.000	779.670	2.529	0.39541	1.933	513.02	543.35	638.54	2.41572	0.522	0.686	1768
360.000	819.670	2.383	0.41877	1.804	546.42	565.43	666.24	2.45036	0.540	0.699	1810
400.000	859.670	2.264	0.44176	1.693	576.96	588.12	694.47	2.48399	0.559	0.713	1850
440.000	899.670	2.153	0.46445	1.597	610.78	611.46	723.27	2.51672	0.577	0.727	1888

METHANE ISOBAR AT P = 1400.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LF	H BTU/LF	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-292.042	167.628	28.378	0.03524	164.539	3800.53	93.96	103.09	1.01728	0.504	0.778	5216
-290.000	169.670	28.282	0.03536	162.324	3738.48	95.50	104.67	1.02702	0.503	0.780	5182
-280.000	179.670	27.845	0.03591	152.065	3465.15	102.96	112.27	1.07196	0.504	0.790	5017
-270.000	189.670	27.403	0.03649	142.367	3195.47	110.62	120.08	1.11509	0.505	0.802	4847
-260.000	199.670	26.954	0.03710	133.195	2933.17	118.45	128.07	1.15656	0.504	0.812	4679
-250.000	209.670	26.495	0.03774	124.504	2680.72	126.39	136.18	1.19642	0.500	0.819	4513
-240.000	219.670	26.024	0.03843	116.249	2439.66	134.42	144.38	1.23475	0.493	0.826	4350
-230.000	229.670	25.541	0.03915	108.388	2210.86	142.51	152.66	1.27168	0.487	0.833	4187
-220.000	239.670	25.043	0.03993	100.881	1994.57	150.68	161.04	1.30739	0.482	0.843	4020
-210.000	249.670	24.529	0.04077	93.694	1790.67	158.96	169.52	1.34210	0.479	0.856	3850
-200.000	259.670	23.996	0.04167	86.796	1598.68	167.35	178.15	1.37599	0.477	0.871	3676
-190.000	269.670	23.442	0.04266	80.162	1417.98	175.89	186.94	1.40920	0.475	0.887	3502
-180.000	279.670	22.864	0.04374	73.767	1247.84	184.56	195.90	1.44179	0.471	0.903	3329
-170.000	289.670	22.258	0.04493	67.588	1087.64	193.36	205.01	1.47380	0.464	0.918	3159
-160.000	299.670	21.619	0.04625	61.606	936.89	202.28	214.27	1.50521	0.452	0.933	2993
-150.000	309.670	20.941	0.04775	55.800	795.40	211.31	223.69	1.53614	0.441	0.953	2822
-140.000	319.670	20.213	0.04947	50.155	663.35	220.57	233.40	1.56696	0.441	0.991	2627
-130.000	329.670	19.424	0.05148	44.659	541.34	230.17	243.52	1.59812	0.438	1.035	2433
-120.000	339.670	18.556	0.05389	39.310	430.44	240.17	254.14	1.62987	0.438	1.093	2232
-110.000	349.670	17.589	0.05686	34.119	332.13	250.71	265.45	1.66268	0.439	1.173	2027
-100.000	359.670	16.491	0.05064	29.126	248.06	261.97	277.69	1.69717	0.442	1.280	1824
-90.000	369.670	15.223	0.05567	24.392	179.78	274.15	291.17	1.73414	0.447	1.424	1629
-80.000	379.670	13.773	0.07261	20.003	129.15	287.46	306.28	1.77447	0.453	1.601	1455
-70.000	389.670	12.175	0.09214	16.128	100.80	301.70	322.99	1.81790	0.456	1.712	1324
-60.000	399.670	10.687	0.09357	13.117	97.76	315.41	339.67	1.86017	0.452	1.592	1264
-50.000	409.670	9.490	0.10537	10.991	103.40	327.45	354.76	1.89747	0.447	1.431	1238
-40.000	419.670	8.541	0.11708	9.452	112.19	338.01	368.37	1.93029	0.442	1.290	1232
-30.000	429.670	7.793	0.12832	8.314	125.64	347.33	380.59	1.95908	0.438	1.158	1241
-20.000	439.670	7.201	0.13887	7.454	140.72	355.63	391.63	1.98449	0.434	1.054	1258
-10.000	449.670	6.721	0.14879	6.782	155.86	363.19	401.76	2.00727	0.432	0.975	1278
0.000	459.670	6.322	0.15817	6.241	170.72	370.20	411.20	2.02804	0.430	0.915	1298
10.000	469.670	5.984	0.16710	5.793	185.22	376.79	420.11	2.04722	0.429	0.969	1319
20.000	479.670	5.693	0.17556	5.416	199.35	383.07	428.61	2.06511	0.428	0.831	1339
30.000	489.670	5.438	0.18389	5.094	213.10	389.09	436.76	2.08195	0.428	0.301	1360
40.000	499.670	5.213	0.19183	4.814	226.50	394.92	444.65	2.09789	0.428	0.777	1379
50.000	509.670	5.012	0.19954	4.568	239.54	400.59	452.31	2.11308	0.429	0.757	1399
60.000	519.670	4.830	0.21703	4.351	252.26	406.12	459.80	2.12761	0.430	0.740	1417
70.000	529.670	4.666	0.23433	4.157	264.67	411.56	467.12	2.14158	0.432	0.726	1436
80.000	539.670	4.515	0.25147	3.982	276.78	416.91	474.33	2.15505	0.434	0.715	1453
100.000	559.670	4.250	0.23530	3.679	300.21	427.43	488.43	2.18072	0.438	0.597	1487
120.000	579.670	4.022	0.24864	3.426	322.67	437.78	502.24	2.20497	0.444	0.585	1519
140.000	599.670	3.823	0.25158	3.210	344.29	448.04	515.85	2.22805	0.450	0.677	1550
160.000	619.670	3.647	0.27418	3.023	365.17	458.26	529.34	2.25017	0.456	0.672	1579
180.000	639.670	3.491	0.29648	2.859	385.40	468.48	542.75	2.27147	0.463	0.570	1606
200.000	659.670	3.350	0.23854	2.714	405.05	478.74	556.13	2.29208	0.471	0.569	1633
220.000	679.670	3.222	0.31038	2.585	424.20	489.06	569.52	2.31207	0.479	0.370	1658
240.000	699.670	3.105	0.32204	2.470	442.89	499.46	582.94	2.33153	0.487	0.672	1683
280.000	739.670	2.900	0.34486	2.269	479.09	520.57	609.98	2.36910	0.505	0.680	1729
320.000	779.670	2.724	0.35714	2.102	513.97	542.19	637.37	2.40517	0.523	0.390	1773
360.000	819.670	2.571	0.33899	1.960	547.76	564.37	665.21	2.43999	0.541	0.702	1815
400.000	859.670	2.436	0.41049	1.838	580.63	587.15	693.57	2.47377	0.560	0.716	1855
440.000	899.670	2.317	0.43168	1.731	612.74	610.57	722.48	2.50664	0.578	0.730	1893

METHANE ISOBAR AT P = 1500.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LF	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/L3/R	FT/S
-291.730	167.940	28.392	0.03522	164.371	3812.55	94.02	103.81	1.01772	0.504	0.778	5219
-290.000	169.670	28.308	0.03533	162.496	3759.23	95.34	105.15	1.02602	0.504	0.779	5190
-280.000	179.670	27.874	0.03588	152.290	3488.12	102.78	112.74	1.07092	0.505	0.790	5027
-270.000	189.670	27.435	0.03645	142.641	3220.28	110.43	120.55	1.11400	0.506	0.801	4859
-260.000	199.670	26.988	0.03705	133.515	2959.51	118.23	128.52	1.15541	0.505	0.811	4692
-250.000	209.670	26.532	0.03769	124.869	2708.36	126.15	136.62	1.19520	0.500	0.818	4529
-240.000	219.670	26.065	0.03837	116.659	2468.44	134.15	144.80	1.23346	0.494	0.824	4368
-230.000	229.670	25.586	0.03908	108.843	2240.64	142.21	153.07	1.27030	0.488	0.831	4206
-220.000	239.670	25.093	0.03985	101.383	2025.29	150.35	161.42	1.30591	0.483	0.840	4042
-210.000	249.670	24.584	0.04068	94.246	1822.29	158.58	169.88	1.34050	0.480	0.853	3874
-200.000	259.670	24.058	0.04157	87.401	1631.22	166.93	178.48	1.37426	0.478	0.867	3703
-190.000	269.670	23.512	0.04253	80.824	1451.49	175.41	187.22	1.40731	0.476	0.883	3531
-180.000	279.670	22.943	0.04359	74.491	1282.40	184.02	196.13	1.43973	0.472	0.898	3361
-170.000	289.670	22.349	0.04475	68.382	1123.31	192.75	205.18	1.47151	0.464	0.911	3196
-160.000	299.670	21.724	0.04603	62.478	973.77	201.57	214.35	1.50265	0.453	0.924	3034
-150.000	309.670	21.063	0.04748	56.763	833.53	210.48	223.67	1.53324	0.441	0.941	2870
-140.000	319.670	20.359	0.04912	51.223	702.70	219.60	233.25	1.56363	0.441	0.975	2681
-130.000	329.670	19.602	0.05102	45.850	581.78	229.00	243.17	1.59420	0.438	1.012	2495
-120.000	339.670	18.778	0.05325	40.645	471.66	238.74	253.53	1.62516	0.437	1.052	2304
-110.000	349.670	17.872	0.05595	35.620	373.56	248.92	264.46	1.65686	0.438	1.126	2110
-100.000	359.670	16.864	0.05930	30.808	288.82	259.65	276.12	1.68973	0.440	1.209	1918
-90.000	369.670	15.732	0.06357	26.262	218.63	271.07	288.73	1.72429	0.443	1.316	1734
-80.000	379.670	14.458	0.06916	22.047	164.08	283.30	302.51	1.76109	0.448	1.444	1566
-70.000	389.670	13.060	0.07657	18.251	127.14	296.31	317.58	1.80024	0.451	1.560	1427
-60.000	399.670	11.648	0.08585	15.054	111.57	309.46	333.31	1.84010	0.449	1.557	1339
-50.000	409.670	10.415	0.09602	12.633	113.42	321.60	348.27	1.87709	0.446	1.430	1298
-40.000	419.670	9.408	0.10630	10.854	119.46	332.42	361.95	1.91007	0.442	1.308	1279
-30.000	429.670	8.584	0.11649	9.509	128.03	342.14	374.49	1.93962	0.439	1.202	1274
-20.000	439.670	7.914	0.12636	8.476	140.43	350.90	385.99	1.96609	0.436	1.101	1282
-10.000	449.670	7.366	0.13576	7.670	154.50	358.86	396.57	1.98988	0.433	1.018	1297
0.000	459.670	6.912	0.14468	7.024	168.84	366.22	406.41	2.01151	0.431	0.952	1314
10.000	469.670	6.528	0.15319	6.494	183.04	373.11	415.66	2.03143	0.430	0.900	1332
20.000	479.670	6.198	0.16135	6.050	197.00	379.63	424.45	2.04995	0.430	0.859	1351
30.000	489.670	5.910	0.16919	5.672	210.66	385.88	432.87	2.06733	0.430	0.826	1370
40.000	499.670	5.657	0.17677	5.346	224.04	391.89	440.99	2.08375	0.430	0.799	1389
50.000	509.670	5.431	0.18412	5.061	237.11	397.73	448.87	2.09935	0.431	0.777	1407
60.000	519.670	5.229	0.19126	4.810	249.90	403.41	456.54	2.11425	0.432	0.758	1425
70.000	529.670	5.045	0.19821	4.587	262.40	408.98	464.04	2.12855	0.434	0.742	1443
80.000	539.670	4.878	0.20500	4.386	274.63	414.45	471.39	2.14231	0.435	0.729	1460
100.000	559.670	4.584	0.21814	4.041	298.34	425.18	485.77	2.16847	0.440	0.710	1494
120.000	579.670	4.333	0.23081	3.753	321.11	435.71	499.82	2.19313	0.445	0.696	1525
140.000	599.670	4.114	0.24307	3.509	343.05	446.11	513.63	2.21656	0.451	0.686	1556
160.000	619.670	3.922	0.25500	3.299	364.25	456.46	527.29	2.23897	0.457	0.680	1584
180.000	639.670	3.750	0.26665	3.115	384.80	466.79	540.86	2.26051	0.464	0.677	1612
200.000	659.670	3.597	0.27804	2.954	404.75	477.15	554.38	2.28133	0.472	0.676	1638
220.000	679.670	3.458	0.28922	2.810	424.18	487.56	567.89	2.30151	0.480	0.676	1664
240.000	699.670	3.331	0.30021	2.681	443.14	498.04	581.43	2.32114	0.488	0.678	1688
280.000	739.670	3.108	0.32172	2.459	479.82	519.30	608.66	2.35898	0.506	0.684	1735
320.000	779.670	2.913	0.34269	2.275	515.12	541.03	636.22	2.39527	0.524	0.694	1778
360.000	819.670	2.753	0.36323	2.119	549.28	563.31	664.20	2.43027	0.542	0.706	1820
400.000	859.670	2.608	0.38342	1.984	582.48	586.19	692.69	2.46420	0.561	0.719	1860
440.000	899.670	2.479	0.40331	1.867	614.87	609.69	721.71	2.49720	0.579	0.733	1899

METHANE ISOBAR AT P = 1600.0 PSI

T	T	DEN	VOL	DP/DT	DP/DO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-291.420	168.250	28.405	0.03521	164.205	3824.48	94.09	104.52	1.01816	0.505	0.777	5222
-290.000	169.670	28.335	0.03529	162.665	3779.74	95.18	105.63	1.02502	0.505	0.779	5198
-280.000	179.670	27.903	0.03584	152.512	3510.87	102.60	113.22	1.06988	0.506	0.789	5037
-270.000	189.670	27.465	0.03641	142.911	3244.87	110.23	121.02	1.11291	0.507	0.800	4871
-260.000	199.670	27.021	0.03701	133.831	2985.64	118.02	128.98	1.15427	0.506	0.809	4706
-250.000	209.670	26.568	0.03764	125.229	2735.80	125.91	137.06	1.19400	0.501	0.816	4544
-240.000	219.670	26.105	0.03831	117.063	2497.01	133.88	145.23	1.23218	0.495	0.822	4385
-230.000	229.670	25.630	0.03902	109.291	2270.18	141.92	153.48	1.26893	0.489	0.829	4225
-220.000	239.670	25.142	0.03977	101.877	2055.74	150.02	161.81	1.30445	0.484	0.838	4063
-210.000	249.670	24.639	0.04059	94.788	1853.61	158.21	170.24	1.33893	0.480	0.850	3897
-200.000	259.670	24.119	0.04146	87.994	1663.43	166.52	178.80	1.37256	0.479	0.863	3728
-190.000	269.670	23.580	0.04241	81.471	1484.60	174.95	187.51	1.40546	0.477	0.878	3560
-180.000	279.670	23.020	0.04344	75.197	1316.49	183.50	196.37	1.43771	0.473	0.892	3393
-170.000	289.670	22.436	0.04457	69.152	1158.44	192.15	205.36	1.46928	0.465	0.905	3232
-160.000	299.670	21.825	0.04582	63.321	1010.00	200.89	214.46	1.50018	0.453	0.916	3074
-150.000	309.670	21.181	0.04721	57.688	870.90	209.70	223.68	1.53045	0.442	0.930	2915
-140.000	319.670	20.498	0.04879	52.242	741.17	218.68	233.14	1.56045	0.442	0.961	2733
-130.000	329.670	19.768	0.05059	46.977	621.22	227.91	242.90	1.59051	0.438	0.993	2554
-120.000	339.670	18.982	0.05268	41.894	511.77	237.42	253.03	1.62080	0.437	1.035	2371
-110.000	349.670	18.126	0.05517	37.006	413.84	247.30	263.64	1.65158	0.437	1.089	2186
-100.000	359.670	17.183	0.05818	32.341	329.54	257.62	274.86	1.68319	0.438	1.156	2004
-90.000	369.670	16.153	0.06191	27.943	256.83	268.47	286.81	1.71597	0.441	1.238	1828
-80.000	379.670	15.010	0.06662	23.861	199.41	279.93	299.67	1.75029	0.444	1.335	1667
-70.000	389.670	13.767	0.07264	20.156	157.18	292.00	313.52	1.78628	0.447	1.431	1526
-60.000	399.670	12.475	0.08016	16.917	132.07	304.38	328.13	1.82330	0.446	1.476	1424
-50.000	409.670	11.254	0.08885	14.281	125.44	316.36	342.69	1.85929	0.444	1.418	1362
-40.000	419.670	10.213	0.03792	12.276	129.37	327.31	356.32	1.89218	0.442	1.310	1333
-30.000	429.670	9.345	0.10701	10.749	135.65	337.23	368.94	1.92188	0.439	1.215	1319
-20.000	439.670	8.613	0.11603	9.555	144.05	346.29	380.67	1.94867	0.437	1.131	1315
-10.000	449.670	8.012	0.12481	8.610	155.63	354.60	391.58	1.97342	0.435	1.052	1321
0.000	459.670	7.505	0.13325	7.853	168.84	362.28	401.75	1.99580	0.433	0.985	1334
10.000	469.670	7.075	0.14133	7.233	182.47	369.44	411.32	2.01639	0.432	0.930	1349
20.000	479.670	6.707	0.14910	6.717	196.08	376.22	420.39	2.03550	0.431	0.886	1366
30.000	489.670	6.387	0.15658	6.280	209.52	382.67	429.06	2.05339	0.431	0.850	1383
40.000	499.670	6.105	0.16381	5.904	222.75	388.87	437.40	2.07026	0.432	0.820	1400
50.000	509.670	5.854	0.17081	5.577	235.75	394.87	445.48	2.08626	0.432	0.796	1418
60.000	519.670	5.630	0.17762	5.290	248.50	400.71	453.33	2.10152	0.433	0.775	1435
70.000	529.670	5.427	0.18425	5.035	261.02	406.41	461.00	2.11613	0.435	0.758	1452
80.000	539.670	5.243	0.19072	4.807	273.29	412.00	468.51	2.13018	0.437	0.744	1469
100.000	559.670	4.920	0.20325	4.416	297.14	422.93	483.15	2.15683	0.441	0.722	1501
120.000	579.670	4.645	0.21531	4.092	320.13	433.63	497.42	2.18188	0.446	0.706	1532
140.000	599.670	4.406	0.22697	3.818	342.31	444.19	511.43	2.20565	0.452	0.696	1562
160.000	619.670	4.196	0.23831	3.583	363.77	454.66	525.27	2.22834	0.458	0.688	1591
180.000	639.670	4.010	0.24936	3.378	384.57	465.11	538.99	2.25013	0.466	0.684	1618
200.000	659.670	3.844	0.26017	3.199	404.78	475.57	552.65	2.27116	0.473	0.682	1644
220.000	679.670	3.693	0.27076	3.039	424.46	486.07	566.29	2.29153	0.481	0.682	1670
240.000	699.670	3.557	0.28117	2.897	443.65	496.63	579.93	2.31132	0.489	0.693	1694
260.000	719.670	3.437	0.29152	2.763	460.79	507.36	593.68	2.33493	0.507	0.689	1740
280.000	739.670	3.312	0.30213	2.640	476.48	519.88	607.08	2.35853	0.525	0.698	1784
300.000	759.670	3.193	0.31303	2.529	490.99	532.26	620.22	2.38212	0.543	0.709	1826
320.000	779.670	3.079	0.32413	2.429	504.49	544.63	632.43	2.40569	0.561	0.722	1866
340.000	799.670	2.970	0.33543	2.339	517.15	556.07	643.76	2.42832	0.580	0.735	1904

METHANE ISOBAR AT P = 1700.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-291.109	168.561	28.418	0.03519	164.039	3836.32	94.16	105.24	1.01860	0.506	0.777	5225
-290.000	169.670	28.361	0.03526	162.831	3800.03	95.02	106.12	1.02403	0.505	0.778	5206
-280.000	179.670	27.931	0.03580	152.730	3533.40	102.43	113.70	1.06885	0.507	0.788	5047
-270.000	189.670	27.496	0.03637	143.177	3269.26	110.04	121.49	1.11184	0.508	0.799	4882
-260.000	199.670	27.055	0.03696	134.141	3011.57	117.80	129.44	1.15313	0.506	0.808	4719
-250.000	209.670	26.605	0.03759	125.583	2763.01	125.68	137.51	1.19280	0.502	0.815	4559
-240.000	219.670	26.145	0.03825	117.461	2525.33	133.62	145.66	1.23091	0.496	0.821	4402
-230.000	229.670	25.674	0.03895	109.732	2299.48	141.63	153.89	1.26758	0.489	0.827	4244
-220.000	239.670	25.190	0.03970	102.363	2085.93	149.70	162.20	1.30301	0.484	0.836	4084
-210.000	249.670	24.692	0.04050	95.319	1884.65	157.86	170.60	1.33738	0.481	0.847	3920
-200.000	259.670	24.173	0.04136	88.574	1695.30	166.12	179.14	1.37089	0.479	0.860	3754
-190.000	269.670	23.647	0.04229	82.103	1517.34	174.50	187.81	1.40365	0.478	0.874	3588
-180.000	279.670	23.095	0.04330	75.884	1350.14	182.99	196.62	1.43573	0.473	0.888	3424
-170.000	289.670	22.521	0.04440	69.901	1193.06	191.58	205.55	1.46711	0.466	0.899	3266
-160.000	299.670	21.922	0.04562	64.137	1045.64	200.23	214.59	1.49778	0.454	0.908	3113
-150.000	309.670	21.293	0.04696	58.579	907.56	208.94	223.73	1.52777	0.442	0.920	2959
-140.000	319.670	20.629	0.04847	53.218	778.83	217.80	233.06	1.55741	0.442	0.948	2782
-130.000	329.670	19.924	0.05019	48.048	659.74	226.88	242.68	1.58702	0.438	0.977	2609
-120.000	339.670	19.170	0.05217	43.071	550.89	236.20	252.62	1.61673	0.437	1.013	2434
-110.000	349.670	18.357	0.05447	38.299	453.11	245.82	262.97	1.64675	0.436	1.058	2257
-100.000	359.670	17.476	0.05722	33.756	367.34	255.80	273.82	1.67733	0.437	1.113	2083
-90.000	369.670	16.516	0.06055	29.477	294.36	266.21	285.27	1.70874	0.439	1.179	1915
-80.000	379.670	15.472	0.06463	25.502	234.68	277.09	297.44	1.74121	0.441	1.255	1758
-70.000	389.670	14.347	0.06970	21.876	188.71	288.44	310.38	1.77486	0.444	1.333	1620
-60.000	399.670	13.169	0.07594	18.650	157.31	300.11	324.02	1.80941	0.443	1.486	1511
-50.000	409.670	12.006	0.08329	15.904	141.75	311.70	337.92	1.84376	0.442	1.581	1432
-40.000	419.670	10.954	0.09129	13.705	140.67	322.66	351.39	1.87626	0.441	1.506	1389
-30.000	429.670	10.057	0.09943	12.002	145.51	332.70	364.00	1.90596	0.439	1.218	1368
-20.000	439.670	9.296	0.10758	10.664	151.96	341.93	375.79	1.93308	0.437	1.142	1356
-10.000	449.670	8.647	0.11565	9.592	160.21	350.47	386.87	1.95801	0.435	1.075	1354
0.000	459.670	8.094	0.12355	8.722	171.14	358.41	397.30	1.98095	0.434	1.012	1359
10.000	469.670	7.622	0.13120	8.009	183.63	365.83	407.13	2.00210	0.433	0.956	1370
20.000	479.670	7.217	0.13857	7.416	196.62	372.83	416.45	2.02174	0.433	0.910	1384
30.000	489.670	6.864	0.14569	6.916	209.69	379.49	425.35	2.04011	0.433	0.872	1399
40.000	499.670	6.554	0.15258	6.487	222.66	385.87	433.90	2.05740	0.433	0.840	1415
50.000	509.670	6.279	0.15926	6.115	235.48	392.03	442.17	2.07378	0.434	0.814	1431
60.000	519.670	6.033	0.16576	5.789	248.12	398.01	450.19	2.08937	0.435	0.792	1447
70.000	529.670	5.811	0.17209	5.500	260.56	403.85	458.02	2.10428	0.436	0.773	1463
80.000	539.670	5.610	0.17827	5.243	272.80	409.56	465.67	2.11860	0.438	0.758	1479
100.000	559.670	5.257	0.19023	4.804	296.67	420.70	480.58	2.14572	0.442	0.734	1510
120.000	579.670	4.957	0.20173	4.441	319.76	431.57	495.07	2.17117	0.447	0.717	1541
140.000	599.670	4.698	0.21285	4.135	342.10	442.27	509.28	2.19526	0.453	0.705	1570
160.000	619.670	4.471	0.22365	3.874	363.74	452.88	523.28	2.21823	0.460	0.596	1598
180.000	639.670	4.270	0.23418	3.648	384.74	463.43	537.15	2.24027	0.467	0.591	1625
200.000	659.670	4.091	0.24446	3.449	405.17	473.99	550.95	2.26150	0.474	0.589	1651
220.000	679.670	3.929	0.25454	3.274	425.06	484.56	564.71	2.28205	0.482	0.588	1676
240.000	699.670	3.782	0.26443	3.117	444.46	495.22	578.46	2.30200	0.490	0.588	1700
280.000	739.670	3.524	0.28375	2.849	481.99	516.76	606.08	2.34039	0.508	0.693	1747
320.000	779.670	3.305	0.30254	2.628	518.05	538.73	633.97	2.37710	0.525	0.702	1790
360.000	819.670	3.116	0.32092	2.442	552.88	561.22	662.25	2.41246	0.544	0.712	1832
400.000	859.670	2.950	0.33895	2.282	586.67	584.28	690.98	2.44669	0.562	0.725	1872
440.000	899.670	2.804	0.35670	2.144	619.59	607.94	720.22	2.47993	0.580	0.738	1910

METHANE ISOBAR AT P = 1800.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-290.000	168.870	28.431	0.03517	163.875	3848.07	94.23	105.95	1.01903	0.507	0.777	5228
-290.000	169.670	28.388	0.03523	162.993	3820.09	94.86	106.61	1.02305	0.506	0.777	5213
-280.000	179.670	27.959	0.03577	152.944	3555.72	102.26	114.18	1.06783	0.507	0.787	5056
-270.000	189.670	27.527	0.03633	143.438	3293.43	109.85	121.96	1.11077	0.509	0.798	4894
-260.000	199.670	27.088	0.03692	134.447	3037.28	117.60	129.90	1.15201	0.507	0.807	4732
-250.000	209.670	26.641	0.03754	125.932	2790.02	125.45	137.96	1.19162	0.503	0.814	4574
-240.000	219.670	26.184	0.03819	117.852	2553.44	133.37	146.09	1.22966	0.496	0.819	4418
-230.000	229.670	25.717	0.03888	110.166	2328.56	141.34	154.30	1.26625	0.490	0.825	4262
-220.000	239.670	25.238	0.03962	102.840	2115.88	149.38	162.59	1.30159	0.485	0.833	4104
-210.000	249.670	24.745	0.04041	95.841	1915.41	157.50	170.97	1.33586	0.482	0.844	3942
-200.000	259.670	24.237	0.04126	89.143	1726.87	165.72	179.48	1.36925	0.480	0.857	3779
-190.000	269.670	23.712	0.04217	82.721	1549.72	174.06	188.11	1.40188	0.478	0.870	3615
-180.000	279.670	23.168	0.04316	76.556	1383.37	182.49	196.88	1.43380	0.474	0.883	3455
-170.000	289.670	22.604	0.04424	70.629	1227.20	191.02	205.76	1.46509	0.466	0.893	3300
-160.000	299.670	22.015	0.04542	64.928	1080.71	199.59	214.73	1.49545	0.455	0.901	3151
-150.000	309.670	21.401	0.04673	59.439	943.59	208.22	223.79	1.52518	0.443	0.911	3000
-140.000	319.670	20.755	0.04818	54.155	815.76	216.97	233.03	1.55449	0.442	0.936	2828
-130.000	329.670	20.072	0.04982	49.070	697.44	225.91	242.51	1.58371	0.439	0.962	2662
-120.000	339.670	19.345	0.05169	44.186	589.12	235.05	252.28	1.61290	0.436	0.993	2493
-110.000	349.670	18.569	0.05385	39.514	491.49	244.46	262.41	1.64227	0.436	1.032	2323
-100.000	359.670	17.735	0.05639	35.074	405.32	254.16	272.95	1.67201	0.436	1.079	2156
-90.000	369.670	16.836	0.05940	30.893	331.27	264.21	284.00	1.70231	0.437	1.133	1994
-80.000	379.670	15.869	0.06301	27.008	269.72	274.63	295.64	1.73335	0.439	1.194	1843
-70.000	389.670	14.836	0.06740	23.449	220.87	285.43	307.90	1.76522	0.442	1.258	1707
-60.000	399.670	13.755	0.07270	20.252	185.00	296.51	320.74	1.79777	0.440	1.307	1596
-50.000	409.670	12.666	0.07895	17.460	162.78	307.63	333.94	1.83039	0.440	1.326	1507
-40.000	419.670	11.634	0.08596	15.127	154.45	318.42	347.07	1.86205	0.439	1.290	1449
-30.000	429.670	10.720	0.09328	13.262	156.46	328.52	359.61	1.89159	0.438	1.217	1418
-20.000	439.670	9.934	0.10067	11.785	161.79	337.86	371.41	1.91875	0.437	1.145	1402
-10.000	449.670	9.256	0.10803	10.595	168.36	346.54	382.55	1.94380	0.436	1.084	1393
0.000	459.670	8.670	0.11534	9.621	176.48	354.67	393.11	1.96702	0.435	1.029	1391
10.000	469.670	8.163	0.12251	8.816	186.89	362.30	403.13	1.98859	0.434	0.977	1396
20.000	479.670	7.723	0.12949	8.144	198.76	369.50	412.66	2.00868	0.434	0.931	1406
30.000	489.670	7.333	0.13625	7.577	211.19	376.35	421.77	2.02746	0.434	0.891	1418
40.000	499.670	7.002	0.14281	7.092	223.76	382.91	430.51	2.04514	0.434	0.858	1432
50.000	509.670	6.703	0.14919	6.673	236.31	389.23	438.95	2.06186	0.435	0.831	1446
60.000	519.670	6.436	0.15539	6.306	248.75	395.34	447.14	2.07777	0.436	0.807	1461
70.000	529.670	6.195	0.16143	5.982	261.04	401.30	455.11	2.09297	0.437	0.788	1476
80.000	539.670	5.976	0.16734	5.695	273.18	407.13	462.90	2.10754	0.439	0.771	1491
100.000	559.670	5.594	0.17877	5.204	296.96	418.47	478.06	2.13512	0.443	0.745	1521
120.000	579.670	5.270	0.18976	4.800	320.04	429.51	492.76	2.16094	0.448	0.727	1550
140.000	599.670	4.990	0.20039	4.462	342.44	440.36	507.16	2.18535	0.454	0.713	1579
160.000	619.670	4.746	0.21070	4.173	364.20	451.10	521.33	2.20859	0.461	0.704	1606
180.000	639.670	4.530	0.22075	3.924	385.35	461.77	535.35	2.23086	0.468	0.698	1633
200.000	659.670	4.337	0.23056	3.706	405.93	472.42	549.27	2.25230	0.475	0.695	1658
220.000	679.670	4.164	0.24017	3.513	425.99	483.10	563.15	2.27303	0.483	0.693	1683
240.000	699.670	4.006	0.24960	3.342	445.57	493.83	577.02	2.29314	0.491	0.694	1707
280.000	739.670	3.731	0.26799	3.050	483.44	515.50	604.83	2.33179	0.508	0.698	1753
320.000	779.670	3.498	0.28588	2.809	519.83	537.59	632.88	2.36872	0.526	0.705	1797
360.000	819.670	3.297	0.30335	2.607	554.95	560.18	661.29	2.40426	0.545	0.716	1838
400.000	859.670	3.120	0.32047	2.434	589.02	583.33	690.15	2.43862	0.563	0.727	1878
440.000	899.670	2.965	0.33732	2.285	622.17	607.07	719.50	2.47199	0.581	0.740	1916

METHANE ISOBAR AT P = 1300.0 PSI

T	T	DEN	VOL	DP/DT	DP/CD	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LP/R	BTU/LB/R	BTU/LB/R	FT/S
-290.490	169.180	28.444	0.03516	163.712	3859.73	94.30	106.67	1.01947	0.507	0.776	5231
-290.000	169.670	28.414	0.03519	163.152	3839.92	94.71	107.09	1.02207	0.507	0.777	5221
-280.000	179.670	27.987	0.03573	153.155	3577.82	102.09	114.66	1.06681	0.508	0.787	5066
-270.000	189.670	27.557	0.03629	143.696	3317.40	109.66	122.43	1.10971	0.509	0.797	4905
-260.000	199.670	27.120	0.03687	134.749	3062.80	117.39	130.36	1.15090	0.508	0.806	4745
-250.000	209.670	26.676	0.03749	126.276	2816.82	125.22	138.41	1.19045	0.503	0.812	4589
-240.000	219.670	26.223	0.03813	118.237	2581.34	133.11	146.53	1.22842	0.497	0.818	4435
-230.000	229.670	25.760	0.03882	110.593	2357.41	141.06	154.72	1.26493	0.491	0.823	4280
-220.000	239.670	25.285	0.03955	103.309	2145.58	149.07	162.99	1.30018	0.486	0.831	4124
-210.000	249.670	24.797	0.04033	96.354	1945.90	157.16	171.35	1.33435	0.483	0.841	3964
-200.000	259.670	24.294	0.04116	89.700	1758.13	165.34	179.82	1.36763	0.481	0.854	3803
-190.000	269.670	23.776	0.04206	83.326	1581.76	173.63	188.42	1.40014	0.479	0.867	3642
-180.000	279.670	23.240	0.04303	77.211	1416.22	182.01	197.15	1.43191	0.475	0.878	3484
-170.000	289.670	22.684	0.04408	71.339	1260.89	190.47	205.98	1.46294	0.467	0.888	3333
-160.000	299.670	22.107	0.04523	65.696	1115.26	198.98	214.90	1.49319	0.455	0.895	3187
-150.000	309.670	21.505	0.04650	60.271	979.01	207.52	223.88	1.52267	0.443	0.903	3041
-140.000	319.670	20.875	0.04790	55.057	852.01	216.17	233.02	1.55169	0.443	0.926	2873
-130.000	329.670	20.211	0.04948	50.048	734.39	224.98	242.39	1.58055	0.439	0.949	2712
-120.000	339.670	19.510	0.05126	45.247	626.55	233.98	252.01	1.60929	0.436	0.976	2548
-110.000	349.670	18.765	0.05329	40.662	529.06	243.19	261.94	1.63809	0.435	1.010	2385
-100.000	359.670	17.971	0.05565	36.310	442.55	252.65	272.23	1.66711	0.435	1.050	2224
-90.000	369.670	17.123	0.05840	32.214	367.58	262.40	282.95	1.69650	0.436	1.095	2068
-80.000	379.670	16.218	0.06166	28.403	304.46	272.46	294.15	1.72640	0.438	1.146	1922
-70.000	389.670	15.259	0.06554	24.902	253.24	282.82	305.87	1.75687	0.440	1.198	1789
-60.000	399.670	14.257	0.07014	21.735	213.98	293.41	318.09	1.78782	0.438	1.242	1677
-50.000	409.670	13.239	0.07553	18.930	186.85	304.08	330.66	1.81888	0.438	1.268	1583
-40.000	419.670	12.248	0.08164	16.517	172.11	314.60	343.33	1.84944	0.438	1.259	1514
-30.000	429.670	11.335	0.08822	14.520	168.89	324.66	355.70	1.87858	0.437	1.210	1472
-20.000	439.670	10.532	0.09495	12.910	172.54	334.08	367.48	1.90568	0.437	1.146	1448
-10.000	449.670	9.834	0.10169	11.608	178.17	342.86	378.63	1.93077	0.436	1.187	1435
0.000	459.670	9.224	0.10841	10.537	184.83	351.10	389.24	1.95411	0.435	1.035	1428
10.000	469.670	8.690	0.11508	9.645	192.85	358.88	399.37	1.97590	0.435	0.990	1427
20.000	479.670	8.221	0.12164	8.895	202.83	366.26	409.05	1.99631	0.434	0.947	1431
30.000	489.670	7.810	0.12804	8.261	214.16	373.28	418.33	2.01544	0.435	0.908	1440
40.000	499.670	7.447	0.13428	7.718	226.09	379.99	427.24	2.03345	0.435	0.875	1451
50.000	509.670	7.125	0.14036	7.249	238.22	386.45	435.84	2.05049	0.436	0.846	1464
60.000	519.670	6.835	0.14628	6.840	250.37	392.71	444.17	2.06669	0.437	0.822	1477
70.000	529.670	6.577	0.15205	6.480	262.46	398.79	452.28	2.08216	0.438	0.901	1491
80.000	539.670	6.341	0.15770	6.160	274.43	404.73	460.21	2.09697	0.440	0.784	1505
100.000	559.670	5.933	0.16863	5.616	298.00	416.26	475.59	2.12497	0.444	0.756	1533
120.000	579.670	5.582	0.17915	5.169	320.98	427.48	490.51	2.15116	0.449	0.736	1561
140.000	599.670	5.282	0.18932	4.796	343.37	438.47	505.08	2.17587	0.455	0.722	1588
160.000	619.670	5.020	0.19919	4.479	365.17	449.33	519.41	2.19938	0.462	0.712	1615
180.000	639.670	4.789	0.20880	4.206	386.40	460.11	533.57	2.22188	0.469	0.705	1641
200.000	659.670	4.583	0.21819	3.967	407.10	470.87	547.63	2.24352	0.476	0.701	1666
220.000	679.670	4.398	0.22737	3.757	427.28	481.63	561.63	2.26442	0.484	0.699	1691
240.000	699.670	4.231	0.23638	3.571	447.00	492.44	575.60	2.28468	0.492	0.699	1715
260.000	739.670	3.938	0.25394	3.253	485.16	514.25	603.60	2.32359	0.509	0.702	1760
320.000	779.670	3.690	0.27100	2.992	521.83	536.46	631.81	2.36074	0.527	0.709	1803
360.000	819.670	3.476	0.28765	2.774	557.22	559.15	660.36	2.39644	0.545	0.719	1845
400.000	859.670	3.293	0.30397	2.588	591.53	582.39	689.33	2.43096	0.564	0.730	1884
440.000	899.670	3.125	0.32000	2.427	624.91	606.20	718.79	2.46445	0.582	0.743	1922

METHANE ISOBAR AT P = 2000.0 PSI

T	T	DEN	VOL	DP/DT	OP/DO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LP	3TU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-290.182	169.488	28.457	0.03514	163.549	3871.29	94.37	107.38	1.01991	0.508	0.776	5234
-290.000	169.670	28.440	0.03516	163.308	3859.51	94.56	107.58	1.02110	0.508	0.776	5228
-280.000	179.670	28.015	0.03569	153.362	3599.71	101.92	115.14	1.06580	0.509	0.786	5075
-270.000	189.670	27.587	0.03625	143.950	3341.16	109.48	122.90	1.10865	0.510	0.796	4916
-260.000	199.670	27.153	0.03683	135.046	3088.10	117.18	130.82	1.14980	0.509	0.805	4758
-250.000	209.670	26.712	0.03744	126.615	2843.42	124.99	138.86	1.18929	0.504	0.811	4603
-240.000	219.670	26.262	0.03808	118.617	2609.02	132.86	146.97	1.22719	0.498	0.816	4451
-230.000	229.670	25.802	0.03876	111.014	2386.03	140.79	155.14	1.26363	0.492	0.822	4298
-220.000	239.670	25.331	0.03948	103.771	2175.04	148.77	163.39	1.29880	0.487	0.829	4144
-210.000	249.670	24.843	0.04025	96.858	1976.14	156.82	171.72	1.33287	0.483	0.839	3986
-200.000	259.670	24.353	0.04107	90.248	1789.10	164.96	180.17	1.36605	0.482	0.851	3827
-190.000	269.670	23.833	0.04195	83.919	1613.48	173.20	188.74	1.39843	0.480	0.863	3668
-180.000	279.670	23.310	0.04290	77.852	1448.69	181.54	197.43	1.43006	0.475	0.874	3513
-170.000	289.670	22.763	0.04393	72.031	1294.15	189.95	206.22	1.46093	0.467	0.882	3364
-160.000	299.670	22.196	0.04505	66.443	1149.33	198.39	215.07	1.49098	0.456	0.888	3222
-150.000	309.670	21.606	0.04628	61.077	1013.87	206.84	223.99	1.52025	0.443	0.895	3080
-140.000	319.670	20.990	0.04764	55.927	887.62	215.40	233.05	1.54900	0.443	0.917	2917
-130.000	329.670	20.344	0.04915	50.987	770.65	224.10	242.31	1.57753	0.439	0.937	2760
-120.000	339.670	19.665	0.05085	46.259	663.25	232.96	251.79	1.60587	0.436	0.961	2601
-110.000	349.670	18.948	0.05278	41.751	565.89	242.00	261.55	1.63417	0.435	0.991	2443
-100.000	359.670	18.188	0.05498	37.476	479.09	251.26	271.62	1.66258	0.435	1.025	2288
-90.000	369.670	17.382	0.05753	33.454	403.33	260.76	282.06	1.69120	0.435	1.064	2137
-80.000	379.670	16.529	0.06050	29.706	338.84	270.51	292.91	1.72016	0.436	1.107	1995
-70.000	389.670	15.531	0.06398	26.255	285.65	280.50	304.20	1.74950	0.438	1.151	1865
-60.000	399.670	14.695	0.06805	23.118	243.63	290.70	315.90	1.77915	0.436	1.188	1754
-50.000	409.670	13.741	0.07278	20.312	212.73	300.98	327.93	1.80888	0.436	1.215	1657
-40.000	419.670	12.797	0.07814	17.855	192.98	311.19	340.13	1.83830	0.436	1.220	1581
-30.000	429.670	11.903	0.08401	15.765	184.10	321.12	352.23	1.86679	0.436	1.194	1528
-20.000	439.670	11.093	0.09014	14.036	184.28	330.55	363.93	1.89372	0.436	1.143	1496
-10.000	449.670	10.373	0.09635	12.624	188.79	339.40	375.08	1.91880	0.436	1.088	1478
0.000	459.670	9.752	0.10255	11.460	194.64	347.73	385.71	1.94218	0.435	1.039	1467
10.000	469.670	9.193	0.10872	10.487	201.37	355.62	395.89	1.96407	0.435	0.996	1462
20.000	479.670	8.707	0.11485	9.664	209.29	363.12	405.65	1.98466	0.435	0.958	1461
30.000	489.670	8.272	0.12089	8.964	218.92	370.28	415.05	2.00404	0.435	0.922	1465
40.000	499.670	7.886	0.12681	8.363	229.79	377.13	424.10	2.02234	0.436	0.889	1473
50.000	509.670	7.542	0.13259	7.843	241.28	383.73	432.84	2.03965	0.437	0.850	1483
60.000	519.670	7.234	0.13824	7.390	253.00	390.11	441.31	2.05611	0.438	0.835	1495
70.000	529.670	6.956	0.14376	6.992	264.79	396.31	449.55	2.07182	0.439	0.814	1507
80.000	539.670	6.704	0.14916	6.638	276.54	402.35	457.59	2.08686	0.441	0.795	1520
100.000	559.670	6.265	0.15962	6.038	299.80	414.08	473.20	2.11525	0.445	0.767	1546
120.000	579.670	5.893	0.16970	5.548	322.60	425.45	488.30	2.14179	0.450	0.745	1573
140.000	599.670	5.573	0.17945	5.139	344.90	436.59	503.05	2.16680	0.456	0.730	1599
160.000	619.670	5.294	0.18891	4.792	366.67	447.57	517.54	2.19056	0.463	0.719	1625
180.000	639.670	5.047	0.19812	4.494	387.93	458.47	531.84	2.21323	0.470	0.712	1650
200.000	659.670	4.823	0.20711	4.234	408.68	469.32	546.02	2.23511	0.477	0.707	1675
220.000	679.670	4.632	0.21590	4.005	428.95	480.17	560.13	2.25618	0.485	0.704	1699
240.000	699.670	4.454	0.22453	3.803	448.77	491.06	574.21	2.27660	0.493	0.704	1722
260.000	719.670	4.144	0.24133	3.460	487.15	513.01	602.39	2.31576	0.510	0.706	1767
320.000	779.670	3.881	0.25765	3.178	524.06	535.34	630.76	2.35311	0.528	0.713	1810
360.000	819.670	3.655	0.27356	2.943	559.69	558.13	659.44	2.38899	0.546	0.722	1851
400.000	859.670	3.458	0.28915	2.743	594.22	581.45	688.54	2.42364	0.565	0.733	1891
440.000	899.670	3.285	0.30445	2.570	627.80	605.35	718.10	2.45725	0.583	0.745	1929

METHANE ISOBAR AT P = 2200.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/CUFT/LB	BTU/LF	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-289.565	170.105	28.483	0.03511	163.228	3894.16	94.51	108.81	1.02080	0.510	0.775	5239
-280.000	179.670	28.070	0.03562	153.766	3642.84	101.59	116.10	1.06381	0.510	0.784	5093
-270.000	189.670	27.646	0.03617	144.446	3388.07	109.11	123.85	1.10657	0.512	0.795	4938
-260.000	199.670	27.217	0.03674	135.628	3138.12	116.78	131.75	1.14762	0.510	0.803	4783
-250.000	209.670	26.782	0.03734	127.279	2896.01	124.55	139.76	1.18700	0.506	0.809	4632
-240.000	219.670	26.338	0.03797	119.360	2663.78	132.38	147.84	1.22477	0.499	0.813	4482
-230.000	229.670	25.885	0.03863	111.836	2442.64	140.25	155.99	1.26107	0.493	0.818	4333
-220.000	239.670	25.422	0.03934	104.672	2233.27	148.17	164.19	1.29608	0.488	0.825	4182
-210.000	249.670	24.947	0.04008	97.839	2035.85	156.16	172.49	1.32997	0.485	0.834	4028
-200.000	259.670	24.460	0.04088	91.312	1850.22	164.23	180.88	1.36294	0.483	0.845	3873
-190.000	269.670	23.960	0.04174	85.069	1675.97	172.39	189.39	1.39510	0.481	0.857	3719
-180.000	279.670	23.445	0.04265	79.092	1512.57	180.63	198.01	1.42647	0.477	0.866	3569
-170.000	289.670	22.914	0.04364	73.366	1359.46	188.93	206.71	1.45704	0.469	0.873	3426
-160.000	299.670	22.365	0.04471	67.878	1216.09	197.25	215.46	1.48675	0.457	0.877	3289
-150.000	309.670	21.795	0.04588	62.619	1082.07	205.56	224.25	1.51561	0.445	0.882	3154
-140.000	319.670	21.207	0.04716	57.582	957.15	213.95	233.16	1.54388	0.444	0.890	2998
-130.000	329.670	20.592	0.04856	52.763	841.31	222.46	242.24	1.57184	0.440	0.896	2850
-120.000	339.670	19.951	0.05012	48.162	734.68	231.08	251.50	1.59949	0.437	0.903	2700
-110.000	349.670	19.280	0.05187	43.783	637.57	239.84	260.97	1.62696	0.435	0.909	2552
-100.000	359.670	18.577	0.05383	39.636	550.32	248.75	270.68	1.65436	0.434	0.915	2405
-90.000	369.670	17.833	0.05606	35.734	473.25	257.84	280.68	1.68177	0.434	0.914	2264
-80.000	379.670	17.067	0.05859	32.092	406.53	267.11	290.98	1.70925	0.435	0.916	2129
-70.000	389.670	16.262	0.06149	28.723	350.13	276.55	301.60	1.73687	0.436	0.918	2004
-60.000	399.670	15.429	0.06481	25.639	303.82	286.12	312.53	1.76457	0.433	0.916	1896
-50.000	409.670	14.573	0.06860	22.846	267.34	295.77	323.71	1.79221	0.433	0.913	1797
-40.000	419.670	13.726	0.07285	20.349	240.42	305.42	335.10	1.81965	0.434	0.914	1714
-30.000	429.670	12.893	0.07756	18.154	222.78	314.95	346.54	1.84661	0.434	0.914	1648
-20.000	439.670	12.104	0.08262	16.260	213.93	324.22	357.88	1.87268	0.434	0.912	1599
-10.000	449.670	11.379	0.08788	14.656	212.72	333.11	368.91	1.89751	0.435	0.914	1568
0.000	459.670	10.727	0.09322	13.313	216.33	341.56	379.54	1.92088	0.435	0.914	1549
10.000	469.670	10.145	0.09857	12.185	221.65	349.59	389.74	1.94284	0.435	0.911	1537
20.000	479.670	9.624	0.10390	11.226	227.79	357.25	399.58	1.96356	0.436	0.916	1530
30.000	489.670	9.157	0.10921	10.404	234.60	364.59	409.08	1.98317	0.436	0.935	1526
40.000	499.670	8.736	0.11447	9.692	242.37	371.66	418.29	2.00179	0.437	0.937	1526
50.000	509.670	8.356	0.11968	9.073	251.44	378.47	427.23	2.01950	0.438	0.981	1530
60.000	519.670	8.012	0.12481	8.530	261.56	385.07	435.91	2.03638	0.440	0.957	1537
70.000	529.670	7.702	0.12984	8.053	272.29	391.47	444.37	2.05249	0.441	0.935	1545
80.000	539.670	7.420	0.13478	7.630	283.31	397.71	452.62	2.06793	0.443	0.916	1555
100.000	559.670	6.926	0.14438	6.914	305.61	409.80	468.62	2.09704	0.447	0.785	1577
120.000	579.670	6.508	0.15366	6.331	327.82	421.48	484.08	2.12419	0.452	0.762	1600
140.000	599.670	6.149	0.16263	5.847	349.73	432.89	499.14	2.14974	0.458	0.745	1624
160.000	619.670	5.836	0.17135	5.438	371.28	444.11	513.92	2.17398	0.465	0.733	1647
180.000	639.670	5.560	0.17985	5.087	392.41	455.22	528.48	2.19711	0.472	0.724	1671
200.000	659.670	5.315	0.18813	4.783	413.13	466.26	542.90	2.21931	0.479	0.718	1694
220.000	679.670	5.096	0.19624	4.516	433.44	477.29	557.23	2.24071	0.487	0.715	1717
240.000	699.670	4.897	0.20419	4.281	453.34	488.33	571.51	2.26141	0.495	0.713	1740
280.000	739.670	4.552	0.21967	3.882	492.00	510.56	600.05	2.30107	0.512	0.714	1783
320.000	779.670	4.261	0.23468	3.557	529.24	533.11	628.72	2.33882	0.530	0.720	1825
360.000	819.670	4.011	0.24931	3.287	565.24	556.10	657.67	2.37503	0.548	0.728	1866
400.000	859.670	3.793	0.26361	3.058	600.13	579.60	686.99	2.40996	0.566	0.738	1904
440.000	899.670	3.602	0.27765	2.861	634.05	603.65	716.76	2.44380	0.584	0.750	1942

METHANE ISOBAR AT P = 2400.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	F BTU/LF	H BTU/LB	S BTU/LR/R	CV BTU/LR/R	CP BTU/LR/R	W FT/S
-288.951	170.719	28.508	0.03508	162.910	3916.65	94.66	110.25	1.02168	0.511	0.775	5245
-280.000	179.670	28.125	0.03556	154.158	3685.11	101.26	117.06	1.06184	0.512	0.783	5111
-270.000	189.670	27.705	0.03609	144.928	3434.15	108.76	124.80	1.10452	0.513	0.793	4959
-260.000	199.670	27.280	0.03666	136.194	3187.33	116.39	132.68	1.14548	0.512	0.801	4807
-250.000	209.670	26.850	0.03724	127.924	2947.81	124.12	140.67	1.18475	0.507	0.806	4659
-240.000	219.670	26.412	0.03786	120.082	2717.73	131.90	148.73	1.22240	0.501	0.810	4513
-230.000	229.670	25.966	0.03851	112.634	2498.43	139.72	156.84	1.25857	0.495	0.815	4367
-220.000	239.670	25.510	0.03920	105.545	2290.63	147.59	165.01	1.29342	0.489	0.821	4219
-210.000	249.670	25.044	0.03993	98.789	2094.61	155.52	173.26	1.32715	0.486	0.830	4069
-200.000	259.670	24.567	0.04071	92.340	1910.29	163.52	181.61	1.35993	0.484	0.840	3918
-190.000	269.670	24.077	0.04153	86.177	1737.30	171.61	190.06	1.39188	0.482	0.851	3767
-180.000	279.670	23.574	0.04242	80.282	1575.16	179.77	198.62	1.42301	0.478	0.859	3622
-170.000	289.670	23.057	0.04337	74.641	1423.30	187.97	207.24	1.45331	0.470	0.865	3484
-160.000	299.670	22.525	0.04440	69.243	1281.20	196.17	215.90	1.48271	0.458	0.867	3353
-150.000	309.670	21.976	0.04550	64.078	1148.42	204.36	224.59	1.51121	0.446	0.870	3223
-140.000	319.670	21.408	0.04671	59.138	1024.64	212.61	233.37	1.53907	0.445	0.886	3074
-130.000	329.670	20.821	0.04803	54.421	909.76	220.94	242.29	1.56655	0.440	0.899	2933
-120.000	339.670	20.211	0.04948	49.925	803.81	229.36	251.35	1.59363	0.437	0.915	2791
-110.000	349.670	19.578	0.05108	45.653	706.92	237.89	260.59	1.62043	0.435	0.933	2650
-100.000	359.670	18.913	0.05286	41.609	619.33	246.53	270.02	1.64703	0.434	0.954	2512
-90.000	369.670	18.234	0.05484	37.803	541.25	255.30	279.68	1.67351	0.433	0.977	2378
-80.000	379.670	17.523	0.05707	34.244	472.78	264.20	289.57	1.69990	0.433	1.001	2250
-70.000	389.670	16.786	0.05957	30.941	413.86	273.23	299.71	1.72626	0.434	1.026	2129
-60.000	399.670	16.023	0.06239	27.901	364.28	282.35	310.08	1.75255	0.431	1.047	2024
-50.000	409.670	15.257	0.06554	25.126	323.70	291.52	320.65	1.77867	0.431	1.067	1926
-40.000	419.670	14.481	0.06906	22.616	291.76	300.70	331.39	1.80453	0.432	1.081	1840
-30.000	429.670	13.712	0.07293	20.370	268.09	309.83	342.25	1.83013	0.432	1.087	1768
-20.000	439.670	12.966	0.07712	18.385	252.25	318.83	353.10	1.85511	0.433	1.082	1709
-10.000	449.670	12.259	0.08157	16.653	243.71	327.59	363.84	1.87926	0.434	1.064	1665
0.000	459.670	11.603	0.08618	15.161	241.61	336.04	374.35	1.90237	0.434	1.036	1634
10.000	469.670	11.005	0.09087	13.887	244.25	344.15	384.54	1.92430	0.435	1.002	1614
20.000	479.670	10.464	0.09556	12.798	249.09	351.92	394.39	1.94506	0.436	0.969	1602
30.000	489.670	9.975	0.10025	11.861	254.82	359.38	403.93	1.96476	0.437	0.940	1594
40.000	499.670	9.531	0.10492	11.048	261.12	366.57	413.20	1.98349	0.438	0.914	1589
50.000	509.670	9.127	0.10956	10.336	267.98	373.53	422.22	2.00137	0.439	0.891	1587
60.000	519.670	8.759	0.11417	9.709	275.61	380.28	431.02	2.01847	0.441	0.870	1587
70.000	529.670	8.422	0.11874	9.154	284.28	386.85	439.62	2.03486	0.442	0.850	1591
80.000	539.670	8.114	0.12325	8.661	293.82	393.26	448.03	2.05059	0.444	0.832	1596
100.000	559.670	7.572	0.13207	7.825	314.36	405.65	464.35	2.08023	0.449	0.801	1612
120.000	579.670	7.111	0.14062	7.145	335.59	417.62	480.11	2.10796	0.454	0.777	1631
140.000	599.670	6.715	0.14892	6.582	356.88	429.28	495.46	2.13399	0.460	0.759	1652
160.000	619.670	6.370	0.15699	6.107	377.99	440.73	510.49	2.15865	0.466	0.745	1673
180.000	639.670	6.066	0.16485	5.701	398.82	452.03	525.30	2.18216	0.473	0.736	1695
200.000	659.670	5.795	0.17253	5.350	419.34	463.26	539.94	2.20470	0.481	0.729	1716
220.000	679.670	5.554	0.18005	5.043	439.53	474.45	554.47	2.22640	0.488	0.725	1738
240.000	699.670	5.336	0.18742	4.772	459.37	485.64	568.93	2.24738	0.497	0.722	1759
260.000	719.670	4.956	0.20176	4.316	498.05	508.14	597.80	2.28750	0.514	0.722	1801
320.000	779.670	4.637	0.21566	3.946	535.44	530.92	626.76	2.32563	0.531	0.727	1842
360.000	819.670	4.363	0.22920	3.639	571.65	554.11	655.97	2.36216	0.549	0.734	1881
400.000	859.670	4.125	0.24243	3.379	606.78	577.78	685.52	2.39735	0.568	0.744	1919
440.000	899.670	3.915	0.25540	3.158	640.96	601.98	715.48	2.43142	0.586	0.755	1956

METHANE ISOBAR AT P = 2600.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	F	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/L3/R	FT/S
-288.339	171.331	28.534	0.03505	162.596	3938.77	94.81	111.58	1.02257	0.513	0.774	5250
-280.000	179.670	28.179	0.03549	154.536	3726.52	100.94	118.03	1.05989	0.513	0.782	5128
-270.000	189.670	27.763	0.03602	145.396	3479.44	108.41	125.75	1.10250	0.515	0.791	4979
-260.000	199.670	27.343	0.03657	136.744	3235.76	116.01	133.62	1.14337	0.513	0.799	4831
-250.000	209.670	26.917	0.03715	128.551	2998.84	123.70	141.58	1.18254	0.509	0.804	4686
-240.000	219.670	26.485	0.03776	120.784	2770.90	131.44	149.62	1.22008	0.502	0.808	4543
-230.000	229.670	26.045	0.03839	113.408	2553.40	139.21	157.70	1.25612	0.496	0.812	4400
-220.000	239.670	25.596	0.03907	106.393	2347.14	147.03	165.84	1.29083	0.491	0.818	4256
-210.000	249.670	25.138	0.03978	99.709	2152.48	154.90	174.05	1.32440	0.488	0.826	4109
-200.000	259.670	24.670	0.04054	93.333	1969.38	162.84	182.35	1.35701	0.486	0.835	3961
-190.000	269.670	24.190	0.04134	87.244	1797.55	170.85	190.76	1.38876	0.484	0.845	3814
-180.000	279.670	23.699	0.04220	81.426	1636.54	178.93	199.25	1.41968	0.479	0.853	3673
-170.000	289.670	23.195	0.04311	75.863	1485.80	187.05	207.81	1.44973	0.471	0.857	3539
-160.000	299.670	22.677	0.04410	70.546	1344.41	195.16	216.39	1.47885	0.459	0.858	3413
-150.000	309.670	22.145	0.04516	65.464	1213.11	203.23	224.97	1.50704	0.447	0.860	3289
-140.000	319.670	21.598	0.04630	60.610	1090.33	211.35	233.64	1.53454	0.446	0.873	3146
-130.000	329.670	21.033	0.04754	55.981	976.28	219.53	242.42	1.56160	0.441	0.884	3011
-120.000	339.670	20.450	0.04890	51.574	870.90	227.78	251.33	1.58820	0.438	0.897	2876
-110.000	349.670	19.848	0.05038	47.390	774.23	236.12	260.37	1.61445	0.435	0.912	2741
-100.000	359.670	19.226	0.05201	43.432	686.39	244.54	269.58	1.64040	0.434	0.929	2609
-90.000	369.670	18.583	0.05381	39.704	607.51	253.05	278.96	1.66613	0.433	0.947	2481
-80.000	379.670	17.919	0.05581	36.213	537.63	261.66	288.53	1.69167	0.433	0.967	2359
-70.000	389.670	17.236	0.05802	32.965	476.69	270.37	298.30	1.71707	0.433	0.987	2243
-60.000	399.670	16.537	0.06047	29.962	424.48	279.14	308.25	1.74229	0.430	1.002	2141
-50.000	409.670	15.826	0.06319	27.205	380.68	287.94	318.36	1.76726	0.430	1.018	2045
-40.000	419.670	15.110	0.06618	24.691	344.90	296.75	328.61	1.79199	0.430	1.032	1958
-30.000	429.670	14.398	0.06946	22.418	316.73	305.53	338.97	1.81639	0.431	1.040	1882
-20.000	439.670	13.693	0.07300	20.379	295.75	314.24	349.38	1.84034	0.432	1.041	1818
-10.000	449.670	13.023	0.07679	18.566	281.47	322.79	359.76	1.86368	0.433	1.034	1765
0.000	459.670	12.382	0.08076	16.971	273.36	331.15	370.03	1.88627	0.434	1.018	1725
10.000	469.670	11.784	0.08486	15.578	270.74	339.25	380.11	1.90796	0.435	0.996	1695
20.000	479.670	11.232	0.08903	14.370	272.49	347.07	389.94	1.92866	0.436	0.969	1676
30.000	489.670	10.728	0.09321	13.322	276.82	354.62	399.49	1.94838	0.437	0.942	1663
40.000	499.670	10.268	0.09739	12.411	282.20	361.90	408.79	1.96717	0.438	0.917	1654
50.000	509.670	9.847	0.10155	11.611	288.16	368.96	417.85	1.98513	0.440	0.895	1648
60.000	519.670	9.461	0.10570	10.905	294.58	375.81	426.70	2.00233	0.442	0.876	1645
70.000	529.670	9.106	0.10982	10.278	301.46	382.49	435.37	2.01885	0.443	0.858	1644
80.000	539.670	8.778	0.11392	9.718	308.97	389.02	443.87	2.03474	0.446	0.842	1645
100.000	559.670	8.197	0.12200	8.763	326.40	401.67	460.41	2.06484	0.450	0.813	1653
120.000	579.670	7.699	0.12989	7.985	345.94	413.89	476.42	2.09296	0.455	0.789	1667
140.000	599.670	7.263	0.13758	7.340	366.24	425.77	492.01	2.11940	0.461	0.771	1683
160.000	619.670	6.893	0.14507	6.797	386.71	437.43	507.27	2.14444	0.468	0.756	1702
180.000	639.670	6.563	0.15238	6.334	407.08	448.93	522.29	2.16829	0.475	0.746	1721
200.000	659.670	6.269	0.15952	5.934	427.26	460.33	537.13	2.19114	0.482	0.738	1741
220.000	679.670	6.005	0.16652	5.585	447.20	471.68	551.85	2.21311	0.490	0.734	1761
240.000	699.670	5.768	0.17338	5.277	466.86	483.01	566.48	2.23434	0.498	0.731	1781
260.000	739.670	5.355	0.18674	4.761	505.35	505.76	595.67	2.27490	0.515	0.729	1821
320.000	779.670	5.008	0.19968	4.343	542.70	528.76	624.90	2.31339	0.533	0.733	1860
360.000	819.670	4.711	0.21228	3.997	578.97	552.14	654.34	2.35022	0.551	0.740	1898
400.000	859.670	4.453	0.22459	3.707	614.22	575.98	684.11	2.38567	0.569	0.749	1935
440.000	899.670	4.226	0.23665	3.459	648.55	600.33	714.26	2.41995	0.587	0.759	1971

METHANE ISOBAR AT P = 2800.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	F BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-287.728	171.942	28.559	0.03501	162.287	3960.54	94.96	113.11	1.02346	0.514	0.774	5255
-280.000	179.670	28.232	0.03542	154.901	3767.06	100.63	119.00	1.05797	0.515	0.781	5145
-270.000	189.670	27.820	0.03595	145.850	3523.90	108.07	126.70	1.10051	0.516	0.790	4999
-260.000	199.670	27.404	0.03649	137.273	3283.41	115.63	134.55	1.14129	0.515	0.797	4855
-250.000	209.670	26.983	0.03706	129.161	3049.10	123.29	142.50	1.18036	0.510	0.802	4712
-240.000	219.670	26.557	0.03766	121.467	2823.31	130.99	150.51	1.21789	0.504	0.805	4572
-230.000	229.670	26.123	0.03828	114.162	2607.59	138.72	158.57	1.25372	0.497	0.809	4433
-220.000	239.670	25.681	0.03894	107.215	2402.84	146.49	166.68	1.28830	0.492	0.814	4291
-210.000	249.670	25.230	0.03964	100.601	2209.48	154.30	174.85	1.32172	0.489	0.822	4147
-200.000	259.670	24.770	0.04037	94.294	2027.55	162.18	183.11	1.35416	0.487	0.831	4003
-190.000	269.670	24.300	0.04115	88.275	1856.80	170.13	191.47	1.38573	0.485	0.840	3860
-180.000	279.670	23.819	0.04198	82.527	1696.82	178.14	199.91	1.41645	0.481	0.847	3722
-170.000	289.670	23.327	0.04287	77.037	1547.08	186.17	208.40	1.44628	0.472	0.850	3593
-160.000	299.670	22.823	0.04382	71.793	1407.08	194.19	216.90	1.47515	0.460	0.850	3471
-150.000	309.670	22.306	0.04483	66.785	1276.31	202.16	225.41	1.50305	0.448	0.850	3352
-140.000	319.670	21.776	0.04592	62.008	1154.40	210.16	233.97	1.53023	0.447	0.862	3214
-130.000	329.670	21.231	0.04710	57.456	1041.07	218.22	242.64	1.55693	0.442	0.871	3084
-120.000	339.670	20.672	0.04838	53.126	936.19	226.32	251.40	1.58313	0.438	0.882	2954
-110.000	349.670	20.096	0.04976	49.017	839.73	234.49	260.29	1.60890	0.436	0.895	2826
-100.000	359.670	19.504	0.05127	45.131	751.71	242.72	269.30	1.63432	0.434	0.909	2700
-90.000	369.670	18.896	0.05292	41.469	672.19	251.02	278.46	1.65943	0.433	0.924	2577
-80.000	379.670	18.271	0.05473	38.035	601.16	259.40	287.78	1.68429	0.433	0.939	2459
-70.000	389.670	17.631	0.05672	34.832	538.56	267.84	297.25	1.70892	0.432	0.955	2348
-60.000	399.670	16.978	0.05890	31.861	484.18	276.33	306.87	1.73330	0.429	0.967	2249
-50.000	409.670	16.316	0.06129	29.121	437.74	284.83	316.61	1.75738	0.429	0.981	2154
-40.000	419.670	15.649	0.06390	26.608	398.85	293.35	326.48	1.78117	0.429	0.992	2067
-30.000	429.670	14.984	0.06674	24.319	367.13	301.84	336.45	1.80464	0.430	1.000	1990
-20.000	439.670	14.327	0.06980	22.245	342.13	310.29	346.47	1.82771	0.431	1.004	1923
-10.000	449.670	13.686	0.07307	20.379	323.41	318.63	356.51	1.85029	0.432	1.003	1865
0.000	459.670	13.069	0.07652	18.711	310.49	326.83	366.51	1.87227	0.433	0.995	1818
10.000	469.670	12.483	0.08011	17.231	302.87	334.86	376.39	1.89354	0.434	0.981	1781
20.000	479.670	11.933	0.08380	15.926	299.97	342.67	386.12	1.91403	0.436	0.963	1753
30.000	489.670	11.422	0.08755	14.779	301.01	350.25	395.64	1.93369	0.437	0.941	1733
40.000	499.670	10.950	0.09132	13.774	304.76	357.59	404.94	1.95249	0.439	0.919	1720
50.000	509.670	10.517	0.09509	12.889	309.82	364.72	414.03	1.97049	0.440	0.898	1711
60.000	519.670	10.117	0.09884	12.106	315.51	371.66	422.91	1.98775	0.442	0.879	1704
70.000	529.670	9.748	0.10258	11.410	321.62	378.42	431.61	2.00434	0.444	0.862	1700
80.000	539.670	9.407	0.10631	10.786	328.11	385.04	440.15	2.02032	0.446	0.847	1698
100.000	559.670	8.796	0.11369	9.720	342.39	397.88	456.83	2.05065	0.451	0.821	1699
120.000	579.670	8.267	0.12097	8.844	359.20	410.30	473.02	2.07908	0.457	0.799	1706
140.000	599.670	7.806	0.12810	8.117	377.89	422.39	488.80	2.10586	0.463	0.780	1718
160.000	619.670	7.404	0.13507	7.504	397.38	434.23	504.26	2.13122	0.469	0.766	1733
180.000	639.670	7.048	0.14188	6.982	417.11	445.91	519.47	2.15537	0.476	0.755	1750
200.000	659.670	6.732	0.14855	6.532	436.82	457.47	534.49	2.17849	0.484	0.747	1768
220.000	679.670	6.448	0.15508	6.139	456.39	468.96	549.37	2.20072	0.492	0.742	1786
240.000	699.670	6.192	0.16149	5.794	475.78	480.44	564.17	2.22217	0.500	0.738	1804
260.000	739.670	5.749	0.17398	5.215	513.89	503.43	593.64	2.26313	0.517	0.736	1842
320.000	779.670	5.374	0.18609	4.748	551.04	526.64	623.13	2.30196	0.534	0.739	1879
360.000	819.670	5.054	0.19787	4.363	587.22	550.21	652.80	2.33908	0.552	0.745	1916
400.000	859.670	4.776	0.20938	4.040	622.47	574.21	682.77	2.37477	0.571	0.754	1952
440.000	899.670	4.532	0.22065	3.765	656.85	598.70	713.10	2.40926	0.589	0.764	1987

METHANE ISOBAR AT P = 3000.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/CUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-287.119	172.551	28.584	0.03498	161.981	3981.95	95.11	114.54	1.02435	0.515	0.773	5260
-280.000	179.670	28.285	0.03535	155.255	3806.75	100.33	119.97	1.05607	0.516	0.780	5161
-270.000	189.670	27.876	0.03587	146.290	3567.55	107.73	127.66	1.09854	0.517	0.789	5019
-260.000	199.670	27.465	0.03641	137.798	3330.29	115.27	135.50	1.13924	0.516	0.795	4877
-250.000	209.670	27.048	0.03697	129.755	3098.61	122.89	143.43	1.17823	0.511	0.800	4738
-240.000	219.670	26.627	0.03756	122.131	2874.97	130.55	151.41	1.21556	0.505	0.803	4601
-230.000	229.670	26.193	0.03817	114.894	2661.03	138.24	159.44	1.25137	0.499	0.806	4464
-220.000	239.670	25.763	0.03882	108.015	2457.77	145.96	167.52	1.28582	0.494	0.811	4326
-210.000	249.670	25.319	0.03950	101.466	2265.67	153.72	175.66	1.31910	0.490	0.818	4185
-200.000	259.670	24.867	0.04021	95.225	2084.85	161.55	183.89	1.35139	0.488	0.827	4043
-190.000	269.670	24.406	0.04097	89.272	1915.10	169.43	192.20	1.38279	0.486	0.835	3904
-180.000	279.670	23.935	0.04178	83.590	1756.06	177.37	200.58	1.41332	0.482	0.842	3770
-170.000	289.670	23.453	0.04264	78.167	1607.24	185.33	209.02	1.44295	0.473	0.844	3644
-160.000	299.670	22.962	0.04355	72.989	1468.10	193.26	217.46	1.47159	0.461	0.843	3526
-150.000	309.670	22.459	0.04453	68.050	1338.16	201.14	225.88	1.49924	0.449	0.842	3411
-140.000	319.670	21.945	0.04557	63.341	1217.01	209.04	234.35	1.52614	0.448	0.853	3278
-130.000	329.670	21.418	0.04669	58.856	1104.32	216.98	242.92	1.55252	0.443	0.860	3153
-120.000	339.670	20.878	0.04790	54.594	999.89	224.96	251.56	1.57835	0.439	0.869	3028
-110.000	349.670	20.326	0.04920	50.550	903.61	232.98	260.31	1.60372	0.436	0.880	2905
-100.000	359.670	19.760	0.05061	46.725	815.46	241.05	269.16	1.62868	0.435	0.891	2784
-90.000	369.670	19.180	0.05214	43.120	735.41	249.17	278.14	1.65329	0.433	0.904	2666
-80.000	379.670	18.587	0.05380	39.735	663.44	257.35	287.24	1.67759	0.433	0.917	2553
-70.000	389.670	17.982	0.05561	36.570	599.45	265.58	296.47	1.70159	0.432	0.930	2445
-60.000	399.670	17.368	0.05758	33.627	543.25	273.84	305.83	1.72529	0.429	0.939	2349
-50.000	409.670	16.746	0.05972	30.903	494.59	282.10	315.28	1.74865	0.428	0.950	2256
-40.000	419.670	16.119	0.06204	28.393	453.12	290.37	324.83	1.77169	0.428	0.960	2170
-30.000	429.670	15.494	0.06454	26.093	418.44	298.62	334.47	1.79440	0.429	0.968	2092
-20.000	439.670	14.874	0.06723	23.995	390.17	306.83	344.18	1.81673	0.430	0.973	2023
-10.000	449.670	14.266	0.07010	22.090	367.85	314.98	353.92	1.83863	0.431	0.974	1962
0.000	459.670	13.675	0.07313	20.371	351.06	323.02	363.64	1.86002	0.432	0.970	1911
10.000	469.670	13.107	0.07629	18.827	339.33	330.93	373.31	1.88083	0.434	0.963	1868
20.000	479.670	12.567	0.07958	17.448	332.21	338.68	382.88	1.90099	0.435	0.951	1833
30.000	489.670	12.058	0.08294	16.220	329.20	346.24	392.32	1.92045	0.437	0.935	1807
40.000	499.670	11.582	0.08634	15.130	329.72	353.62	401.58	1.93919	0.439	0.918	1787
50.000	509.670	11.140	0.08977	14.165	332.89	360.80	410.67	1.95719	0.441	0.899	1774
60.000	519.670	10.730	0.09320	13.307	337.61	367.80	419.57	1.97449	0.443	0.881	1764
70.000	529.670	10.350	0.09661	12.543	343.05	374.63	428.30	1.99112	0.445	0.865	1758
80.000	539.670	9.998	0.10002	11.859	348.94	381.31	436.87	2.00716	0.447	0.850	1753
100.000	559.670	9.364	0.11679	10.685	361.68	394.29	453.62	2.03763	0.452	0.825	1749
120.000	579.670	8.811	0.11349	9.717	375.85	406.87	469.92	2.06625	0.458	0.805	1750
140.000	599.670	8.326	0.12010	8.908	392.13	419.13	485.85	2.09327	0.464	0.788	1757
160.000	619.670	7.899	0.12659	8.226	410.09	431.14	501.47	2.11889	0.471	0.774	1768
180.000	639.670	7.521	0.13296	7.644	428.87	442.97	516.83	2.14330	0.478	0.763	1781
200.000	659.670	7.184	0.13920	7.142	447.94	454.68	532.01	2.16667	0.485	0.755	1797
220.000	679.670	6.881	0.14532	6.705	467.04	466.32	547.05	2.18912	0.493	0.749	1813
240.000	699.670	6.608	0.15133	6.321	486.06	477.92	561.99	2.21078	0.501	0.745	1830
280.000	739.670	6.133	0.16305	5.678	523.63	501.15	591.72	2.25211	0.518	0.743	1864
320.000	779.670	5.734	0.17441	5.161	560.44	524.56	621.45	2.29126	0.536	0.745	1899
360.000	819.670	5.392	0.18547	4.735	596.41	548.31	651.34	2.32864	0.554	0.750	1935
400.000	859.670	5.095	0.19627	4.378	631.55	572.46	681.50	2.36456	0.572	0.758	1969
440.000	899.670	4.835	0.20685	4.075	665.88	597.10	712.01	2.39925	0.590	0.768	2004

METHANE ISOBAR AT P = 3400.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-285.908	173.762	28.635	0.03492	161.380	4023.68	95.42	117.41	1.02613	0.518	0.772	5270
-280.000	179.670	28.389	0.03522	155.927	3883.54	99.73	121.91	1.05234	0.519	0.777	5192
-270.000	189.670	27.987	0.03573	147.134	3652.46	107.08	129.58	1.09468	0.520	0.786	5056
-260.000	199.670	27.583	0.03625	138.797	3421.77	114.56	137.39	1.13524	0.519	0.792	4921
-250.000	209.670	27.176	0.03680	130.897	3195.42	122.11	145.28	1.17405	0.514	0.796	4788
-240.000	219.670	26.763	0.03736	123.408	2976.13	129.70	153.23	1.21120	0.508	0.798	4656
-230.000	229.670	26.346	0.03796	116.302	2765.73	137.32	161.21	1.24679	0.501	0.801	4525
-220.000	239.670	25.922	0.03858	109.549	2565.40	144.95	169.24	1.28101	0.496	0.805	4392
-210.000	249.670	25.492	0.03923	103.124	2375.74	152.62	177.32	1.31405	0.493	0.811	4257
-200.000	259.670	25.054	0.03991	97.005	2197.00	160.34	185.47	1.34605	0.491	0.819	4121
-190.000	269.670	24.609	0.04064	91.173	2029.10	168.11	193.70	1.37715	0.489	0.827	3987
-180.000	279.670	24.155	0.04140	85.612	1871.74	175.93	201.99	1.40735	0.484	0.832	3860
-170.000	289.670	23.694	0.04221	80.308	1724.48	183.75	210.32	1.43660	0.476	0.833	3740
-160.000	299.670	23.224	0.04306	75.250	1586.83	191.53	218.64	1.46485	0.464	0.831	3630
-150.000	309.670	22.745	0.04397	70.429	1458.28	199.25	226.93	1.49206	0.451	0.828	3522
-140.000	319.670	22.258	0.04493	65.837	1338.37	206.97	235.25	1.51847	0.450	0.837	3397
-130.000	329.670	21.761	0.04595	61.469	1226.73	214.71	243.64	1.54431	0.444	0.842	3280
-120.000	339.670	21.256	0.04705	57.318	1123.05	222.47	252.09	1.56955	0.441	0.848	3164
-110.000	349.670	20.740	0.04821	53.383	1027.11	230.25	260.61	1.59425	0.438	0.855	3049
-100.000	359.670	20.216	0.04947	49.659	938.78	238.06	269.20	1.61849	0.436	0.864	2937
-90.000	369.670	19.683	0.05081	46.144	857.95	245.89	277.88	1.64229	0.434	0.872	2827
-80.000	379.670	19.141	0.05224	42.838	784.51	253.76	286.65	1.66570	0.433	0.882	2721
-70.000	389.670	18.591	0.05379	39.737	718.35	261.65	295.51	1.68874	0.432	0.891	2619
-60.000	399.670	18.035	0.05545	36.840	659.29	269.55	304.46	1.71142	0.428	0.897	2529
-50.000	409.670	17.474	0.05723	34.144	607.11	277.44	313.47	1.73367	0.428	0.905	2440
-40.000	419.670	16.911	0.05913	31.642	561.52	285.32	322.55	1.75558	0.427	0.912	2356
-30.000	429.670	16.348	0.06117	29.330	522.19	293.19	331.70	1.77713	0.428	0.918	2279
-20.000	439.670	15.789	0.06334	27.200	488.76	301.04	340.91	1.79832	0.429	0.923	2208
-10.000	449.670	15.236	0.06563	25.245	460.84	308.84	350.16	1.81912	0.430	0.926	2144
0.000	459.670	14.694	0.06805	23.456	438.07	316.58	359.43	1.83950	0.432	0.927	2088
10.000	469.670	14.166	0.07059	21.824	420.03	324.25	368.69	1.85943	0.433	0.925	2038
20.000	479.670	13.656	0.07323	20.341	406.34	331.81	377.91	1.87886	0.435	0.920	1995
30.000	489.670	13.166	0.07595	18.996	396.61	339.26	387.08	1.89778	0.437	0.913	1959
40.000	499.670	12.699	0.07875	17.780	390.45	346.59	396.17	1.91615	0.439	0.904	1929
50.000	509.670	12.256	0.08159	16.683	387.51	353.78	405.15	1.93395	0.441	0.893	1906
60.000	519.670	11.838	0.08447	15.695	387.39	360.83	414.01	1.95117	0.444	0.880	1887
70.000	529.670	11.445	0.08737	14.804	389.61	367.74	422.75	1.96782	0.446	0.867	1873
80.000	539.670	11.078	0.09027	14.002	393.56	374.52	431.36	1.98392	0.449	0.854	1863
100.000	559.670	10.411	0.09605	12.619	404.01	387.73	448.20	2.01457	0.454	0.831	1851
120.000	579.670	9.824	0.10180	11.475	415.93	400.53	464.62	2.04340	0.460	0.812	1845
140.000	599.670	9.303	0.10749	10.515	428.80	413.04	480.71	2.07069	0.466	0.797	1843
160.000	619.670	8.840	0.11313	9.699	442.73	425.31	496.53	2.09664	0.473	0.785	1845
180.000	639.670	8.425	0.11870	8.999	458.18	437.40	512.13	2.12142	0.480	0.775	1851
200.000	659.670	8.052	0.12419	8.393	474.98	449.37	527.56	2.14517	0.488	0.767	1860
220.000	679.670	7.716	0.12960	7.866	492.54	461.25	542.85	2.16800	0.496	0.762	1872
240.000	699.670	7.412	0.13492	7.402	510.46	473.09	558.03	2.19002	0.504	0.757	1885
260.000	719.670	6.881	0.14532	6.627	546.51	496.74	588.23	2.23200	0.521	0.754	1913
320.000	779.670	6.434	0.15542	6.005	582.30	520.54	618.39	2.27170	0.539	0.755	1944
360.000	819.670	6.051	0.16526	5.495	617.55	544.62	648.66	2.30956	0.557	0.759	1976
400.000	859.670	5.719	0.17487	5.069	652.18	569.08	679.17	2.34591	0.575	0.767	2007
440.000	899.670	5.426	0.18428	4.708	686.17	593.98	710.01	2.38096	0.593	0.775	2039

METHANE ISOBAR AT P = 3800.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-284.703	174.967	28.684	0.03486	160.794	4063.98	95.75	120.28	1.02793	0.521	0.772	5280
-280.000	179.670	28.491	0.03510	156.553	3956.85	99.16	123.86	1.04869	0.522	0.776	5220
-270.000	189.670	28.096	0.03559	147.929	3734.17	106.46	131.51	1.09092	0.523	0.784	5092
-260.000	199.670	27.698	0.03610	139.743	3510.25	113.88	139.29	1.13134	0.521	0.789	4963
-250.000	209.670	27.299	0.03663	131.981	3289.34	121.38	147.15	1.17001	0.517	0.793	4835
-240.000	219.670	26.896	0.03718	124.622	3074.46	128.90	155.06	1.20698	0.510	0.794	4709
-230.000	229.670	26.488	0.03775	117.638	2867.64	136.44	163.00	1.24239	0.504	0.796	4582
-220.000	239.670	26.075	0.03835	111.003	2670.20	143.99	170.98	1.27640	0.499	0.800	4455
-210.000	249.670	25.656	0.03898	104.694	2482.93	151.58	179.00	1.30920	0.495	0.805	4325
-200.000	259.670	25.232	0.03963	98.687	2306.15	159.20	187.09	1.34096	0.493	0.812	4194
-190.000	269.670	24.800	0.04032	92.964	2139.92	166.88	195.25	1.37179	0.491	0.819	4066
-180.000	279.670	24.363	0.04105	87.511	1984.03	174.58	203.46	1.40169	0.487	0.823	3944
-170.000	289.670	23.918	0.04181	82.312	1838.09	182.28	211.70	1.43064	0.478	0.824	3831
-160.000	299.670	23.467	0.04261	77.358	1701.64	189.94	219.92	1.45854	0.466	0.820	3726
-150.000	309.670	23.009	0.04346	72.638	1574.19	197.52	228.10	1.48538	0.453	0.816	3625
-140.000	319.670	22.544	0.04436	68.145	1455.27	205.08	236.30	1.51139	0.451	0.823	3506
-130.000	329.670	22.073	0.04531	63.871	1344.44	212.66	244.54	1.53679	0.446	0.826	3396
-120.000	339.670	21.594	0.04631	59.813	1241.34	220.24	252.83	1.56155	0.442	0.831	3287
-110.000	349.670	21.109	0.04737	55.963	1145.69	227.83	261.17	1.58574	0.439	0.836	3180
-100.000	359.670	20.617	0.04850	52.319	1057.26	235.43	269.56	1.60940	0.437	0.842	3074
-90.000	369.670	20.119	0.04970	48.876	975.88	243.04	278.02	1.63259	0.435	0.849	2971
-80.000	379.670	19.616	0.05098	45.631	901.38	250.67	286.54	1.65534	0.434	0.856	2871
-70.000	389.670	19.107	0.05234	42.580	833.62	258.30	295.13	1.67768	0.433	0.863	2775
-60.000	399.670	18.595	0.05378	39.720	772.42	265.94	303.78	1.69959	0.429	0.866	2689
-50.000	409.670	18.079	0.05531	37.046	717.59	273.54	312.47	1.72106	0.428	0.872	2603
-40.000	419.670	17.563	0.05694	34.554	668.86	281.14	321.21	1.74214	0.427	0.877	2522
-30.000	429.670	17.047	0.05866	32.236	625.97	288.73	330.01	1.76286	0.428	0.882	2446
-20.000	439.670	16.533	0.06048	30.087	588.60	296.29	338.85	1.78321	0.429	0.887	2375
-10.000	449.670	16.025	0.06240	28.099	556.43	303.82	347.73	1.80319	0.430	0.890	2310
0.000	459.670	15.524	0.06442	26.264	529.12	311.32	356.64	1.82278	0.431	0.892	2251
10.000	469.670	15.033	0.06652	24.574	506.32	318.76	365.56	1.84198	0.433	0.892	2198
20.000	479.670	14.554	0.06871	23.022	487.68	326.13	374.48	1.86077	0.435	0.891	2151
30.000	489.670	14.090	0.07097	21.598	472.88	333.43	383.37	1.87912	0.437	0.888	2109
40.000	499.670	13.641	0.07331	20.295	461.57	340.65	392.23	1.89702	0.439	0.883	2073
50.000	509.670	13.211	0.07570	19.104	453.43	347.77	401.03	1.91446	0.442	0.877	2042
60.000	519.670	12.799	0.07813	18.017	448.15	354.79	409.77	1.93143	0.444	0.870	2016
70.000	529.670	12.407	0.08060	17.026	445.45	361.71	418.42	1.94793	0.447	0.862	1995
80.000	539.670	12.035	0.08309	16.123	445.06	368.53	426.99	1.96397	0.450	0.853	1977
100.000	559.670	11.349	0.08811	14.548	449.89	381.86	443.86	1.99465	0.455	0.834	1954
120.000	579.670	10.739	0.09312	13.234	459.41	394.84	460.36	2.02362	0.462	0.817	1940
140.000	599.670	10.194	0.09810	12.128	470.71	407.51	476.54	2.05107	0.468	0.802	1933
160.000	619.670	9.705	0.10304	11.185	482.88	419.97	492.47	2.07720	0.475	0.791	1929
180.000	639.670	9.265	0.10794	10.374	495.76	432.25	508.20	2.10218	0.483	0.782	1929
200.000	659.670	8.866	0.11279	9.669	509.43	444.41	523.78	2.12616	0.491	0.776	1932
220.000	679.670	8.504	0.11759	9.052	524.24	456.49	539.24	2.14925	0.499	0.771	1938
240.000	699.670	8.174	0.12234	8.509	540.12	468.53	554.61	2.17154	0.507	0.767	1946
280.000	739.670	7.596	0.13164	7.600	573.64	492.55	585.19	2.21404	0.524	0.763	1967
320.000	779.670	7.107	0.14071	6.871	607.92	516.69	615.70	2.25422	0.542	0.763	1993
360.000	819.670	6.687	0.14955	6.273	642.12	541.08	646.31	2.29250	0.559	0.767	2020
400.000	859.670	6.321	0.15820	5.775	675.96	565.81	677.13	2.32921	0.577	0.774	2049
440.000	899.670	6.000	0.16667	5.354	709.33	590.98	708.25	2.36460	0.595	0.782	2078

METHANE ISOBAR AT P = 4200.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-283.505	176.165	28.733	0.03480	160.223	4102.85	96.08	123.15	1.02973	0.524	0.771	5289
-280.000	179.670	28.591	0.03498	157.137	4026.63	98.61	125.81	1.04511	0.524	0.774	5247
-270.000	189.670	28.201	0.03546	148.679	3812.65	105.86	133.44	1.08724	0.525	0.782	5126
-260.000	199.670	27.811	0.03596	140.640	3595.71	113.24	141.20	1.12755	0.524	0.787	5002
-250.000	209.670	27.419	0.03647	133.012	3380.43	120.67	149.04	1.16607	0.519	0.790	4880
-240.000	219.670	27.024	0.03700	125.777	3170.07	128.13	156.91	1.20289	0.513	0.791	4759
-230.000	229.670	26.625	0.03756	118.910	2966.87	135.61	164.82	1.23813	0.506	0.792	4638
-220.000	239.670	26.222	0.03814	112.386	2772.34	143.09	172.75	1.27195	0.501	0.795	4515
-210.000	249.670	25.814	0.03874	106.183	2587.40	150.59	180.72	1.30455	0.498	0.800	4390
-200.000	259.670	25.401	0.03937	100.280	2412.53	158.13	188.75	1.33605	0.496	0.806	4264
-190.000	269.670	24.983	0.04003	94.658	2247.86	165.72	196.85	1.36667	0.493	0.812	4141
-180.000	279.670	24.559	0.04072	89.301	2093.28	173.32	204.99	1.39633	0.489	0.816	4024
-170.000	289.670	24.130	0.04144	84.197	1948.48	180.92	213.15	1.42499	0.480	0.815	3915
-160.000	299.670	23.695	0.04220	79.334	1813.04	188.46	221.29	1.45260	0.468	0.811	3816
-150.000	309.670	23.254	0.04300	74.703	1686.48	195.92	229.37	1.47912	0.455	0.806	3721
-140.000	319.670	22.809	0.04384	70.294	1568.33	203.36	237.45	1.50479	0.453	0.812	3607
-130.000	329.670	22.358	0.04473	66.102	1458.14	210.80	245.58	1.52983	0.448	0.814	3503
-120.000	339.670	21.902	0.04566	62.120	1355.50	218.23	253.74	1.55420	0.444	0.817	3400
-110.000	349.670	21.442	0.04664	58.341	1260.07	225.66	261.93	1.57796	0.441	0.821	3298
-100.000	359.670	20.976	0.04767	54.762	1171.58	233.08	270.16	1.60117	0.438	0.825	3198
-90.000	369.670	20.507	0.04876	51.377	1089.79	240.51	278.44	1.62387	0.436	0.830	3101
-80.000	379.670	20.034	0.04992	48.181	1014.50	247.95	286.77	1.64611	0.435	0.835	3006
-70.000	389.670	19.557	0.05113	45.171	945.52	255.38	295.15	1.66789	0.434	0.841	2914
-60.000	399.670	19.078	0.05242	42.342	882.69	262.80	303.57	1.68923	0.429	0.842	2833
-50.000	409.670	18.598	0.05377	39.688	825.79	270.20	312.01	1.71010	0.428	0.846	2750
-40.000	419.670	18.118	0.05519	37.204	774.61	277.57	320.50	1.73056	0.428	0.851	2672
-30.000	429.670	17.638	0.05670	34.884	728.91	284.93	329.03	1.75065	0.428	0.855	2597
-20.000	439.670	17.161	0.05827	32.721	688.42	292.28	337.60	1.77036	0.429	0.859	2528
-10.000	449.670	16.688	0.05992	30.710	652.86	299.59	346.20	1.78971	0.430	0.862	2462
0.000	459.670	16.221	0.06165	28.842	621.92	306.88	354.83	1.80869	0.431	0.864	2402
10.000	469.670	15.761	0.06345	27.111	595.32	314.13	363.48	1.82730	0.433	0.865	2347
20.000	479.670	15.311	0.06531	25.508	572.74	321.34	372.13	1.84554	0.435	0.866	2297
30.000	489.670	14.871	0.06725	24.027	553.88	328.49	380.79	1.86339	0.437	0.865	2252
40.000	499.670	14.443	0.06924	22.659	538.45	335.58	389.43	1.88086	0.440	0.863	2212
50.000	509.670	14.030	0.07128	21.399	526.16	342.60	398.04	1.89792	0.442	0.860	2177
60.000	519.670	13.630	0.07337	20.238	516.72	349.56	406.62	1.91459	0.445	0.856	2145
70.000	529.670	13.247	0.07549	19.169	509.87	356.44	415.15	1.93085	0.448	0.851	2118
80.000	539.670	12.879	0.07765	18.187	505.37	363.24	423.63	1.94671	0.451	0.845	2095
100.000	559.670	12.191	0.08203	16.452	502.53	376.61	440.40	1.97723	0.457	0.832	2060
120.000	579.670	11.568	0.08644	14.984	506.44	389.68	456.91	2.00622	0.463	0.819	2037
140.000	599.670	11.006	0.09086	13.737	514.97	402.49	473.16	2.03377	0.470	0.806	2023
160.000	619.670	10.499	0.09525	12.672	525.70	415.09	489.16	2.06003	0.477	0.795	2014
180.000	639.670	10.040	0.09960	11.752	537.36	427.52	504.98	2.08516	0.485	0.787	2010
200.000	659.670	9.622	0.10392	10.952	549.63	439.83	520.66	2.10928	0.493	0.781	2009
220.000	679.670	9.241	0.10821	10.251	562.42	452.06	536.22	2.13253	0.501	0.776	2010
240.000	699.670	8.892	0.11246	9.631	575.83	464.25	551.71	2.15499	0.509	0.773	2013
280.000	739.670	8.275	0.12084	8.590	605.24	488.59	582.57	2.19788	0.526	0.770	2026
320.000	779.670	7.750	0.12904	7.752	637.11	513.03	613.38	2.23845	0.544	0.771	2045
360.000	819.670	7.297	0.13705	7.066	669.83	537.69	644.28	2.27709	0.562	0.774	2068
400.000	859.670	6.902	0.14489	6.494	702.62	562.69	675.37	2.31413	0.580	0.781	2093
440.000	899.670	6.554	0.15258	6.011	735.16	588.08	706.75	2.34980	0.598	0.788	2119

METHANE ISOBAR AT P = 4600.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSI/CUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-282.314	177.356	28.781	0.03474	159.665	4140.30	96.42	126.01	1.03153	0.527	0.771	5298
-280.000	179.670	28.690	0.03486	157.680	4092.83	98.08	127.77	1.04161	0.527	0.773	5272
-270.000	189.670	28.305	0.03533	149.385	3887.91	105.29	135.38	1.08365	0.528	0.780	5157
-260.000	199.670	27.921	0.03582	141.490	3678.20	112.61	143.12	1.12385	0.526	0.785	5040
-250.000	209.670	27.536	0.03632	133.993	3468.72	120.00	150.93	1.16225	0.522	0.787	4923
-240.000	219.670	27.148	0.03683	126.877	3263.00	127.40	158.78	1.19893	0.515	0.788	4807
-230.000	229.670	26.758	0.03737	120.121	3063.51	134.81	166.64	1.23401	0.509	0.789	4690
-220.000	239.670	26.364	0.03793	113.704	2871.93	142.23	174.53	1.26766	0.503	0.791	4572
-210.000	249.670	25.966	0.03851	107.601	2689.34	149.66	182.46	1.30007	0.500	0.795	4451
-200.000	259.670	25.563	0.03912	101.794	2516.34	157.12	190.44	1.33141	0.498	0.801	4330
-190.000	269.670	25.157	0.03975	96.265	2353.16	164.62	198.48	1.36178	0.496	0.806	4212
-180.000	279.670	24.745	0.04041	90.997	2199.80	172.14	206.56	1.39121	0.491	0.809	4099
-170.000	289.670	24.329	0.04110	85.979	2056.00	179.64	214.66	1.41963	0.482	0.808	3995
-160.000	299.670	23.909	0.04183	81.197	1921.41	187.09	222.71	1.44698	0.470	0.803	3900
-150.000	309.670	23.484	0.04258	76.644	1795.58	194.44	230.71	1.47323	0.457	0.797	3810
-140.000	319.670	23.055	0.04337	72.310	1678.05	201.76	238.71	1.49860	0.455	0.802	3702
-130.000	329.670	22.622	0.04420	68.188	1568.35	209.08	246.73	1.52333	0.450	0.803	3603
-120.000	339.670	22.186	0.04507	64.271	1466.07	216.38	254.78	1.54737	0.446	0.806	3505
-110.000	349.670	21.746	0.04599	60.553	1370.81	223.68	262.85	1.57078	0.442	0.808	3408
-100.000	359.670	21.303	0.04694	57.028	1282.27	230.96	270.95	1.59362	0.439	0.812	3313
-90.000	369.670	20.856	0.04795	53.691	1200.16	238.24	279.08	1.61593	0.437	0.815	3220
-80.000	379.670	20.408	0.04900	50.537	1124.25	245.52	287.25	1.63774	0.436	0.819	3129
-70.000	389.670	19.958	0.05011	47.561	1054.33	252.79	295.47	1.65909	0.435	0.823	3042
-60.000	399.670	19.506	0.05127	44.756	990.21	260.04	303.71	1.67997	0.430	0.824	2964
-50.000	409.670	19.054	0.05248	42.119	931.68	267.25	311.96	1.70036	0.429	0.827	2885
-40.000	419.670	18.602	0.05376	39.643	878.55	274.45	320.24	1.72034	0.428	0.830	2809
-30.000	429.670	18.152	0.05509	37.322	830.59	281.63	328.56	1.73993	0.428	0.833	2736
-20.000	439.670	17.704	0.05649	35.151	787.56	288.80	336.91	1.75914	0.429	0.837	2667
-10.000	449.670	17.259	0.05794	33.122	749.23	295.94	345.29	1.77799	0.430	0.840	2603
0.000	459.670	16.820	0.05945	31.229	715.32	303.06	353.70	1.79648	0.432	0.842	2542
10.000	469.670	16.387	0.06102	29.466	685.58	310.15	362.13	1.81463	0.434	0.844	2486
20.000	479.670	15.961	0.06265	27.825	659.74	317.21	370.57	1.83241	0.436	0.845	2435
30.000	489.670	15.544	0.06433	26.299	637.52	324.22	379.02	1.84985	0.438	0.845	2387
40.000	499.670	15.136	0.06607	24.882	618.66	331.20	387.47	1.86693	0.440	0.845	2345
50.000	509.670	14.740	0.06784	23.567	602.91	338.12	395.91	1.88365	0.443	0.843	2306
60.000	519.670	14.355	0.06966	22.348	590.00	344.99	404.33	1.90001	0.446	0.841	2271
70.000	529.670	13.982	0.07152	21.219	579.69	351.81	412.73	1.91602	0.449	0.838	2240
80.000	539.670	13.623	0.07341	20.173	571.76	358.57	421.10	1.93167	0.452	0.835	2213
100.000	559.670	12.944	0.07725	18.307	562.17	371.91	437.71	1.96190	0.458	0.827	2168
120.000	579.670	12.320	0.08117	16.708	559.71	385.02	454.16	1.99077	0.465	0.817	2136
140.000	599.670	11.750	0.08511	15.335	563.01	397.91	470.41	2.01833	0.472	0.808	2113
160.000	619.670	11.230	0.08905	14.152	570.63	410.61	486.47	2.04468	0.479	0.798	2099
180.000	639.670	10.756	0.09297	13.128	580.75	423.16	502.35	2.06991	0.487	0.791	2090
200.000	659.670	10.324	0.09687	12.235	591.96	435.59	518.10	2.09416	0.495	0.785	2085
220.000	679.670	9.928	0.10073	11.451	603.77	447.95	533.75	2.11753	0.503	0.780	2083
240.000	699.670	9.564	0.10456	10.757	616.03	460.26	549.33	2.14011	0.511	0.778	2083
280.000	739.670	8.918	0.11214	9.588	641.84	484.86	580.38	2.18327	0.529	0.776	2088
320.000	779.670	8.362	0.11959	8.644	670.16	509.55	611.41	2.22413	0.547	0.777	2101
360.000	819.670	7.881	0.12689	7.869	700.61	534.46	642.55	2.26307	0.565	0.780	2118
400.000	859.670	7.460	0.13405	7.223	731.94	559.69	673.88	2.30039	0.582	0.786	2140
440.000	899.670	7.088	0.14108	6.678	763.45	585.31	705.48	2.33632	0.600	0.794	2163

METHANE ISOBAR AT P = 5000.0 PSI

T	T	OEN	VOL	CP/DT	DP/DO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-281.130	178.540	28.829	0.03469	159.121	4176.34	96.77	128.88	1.03334	0.529	0.770	5307
-280.000	179.670	28.787	0.03474	158.183	4155.39	97.57	129.73	1.03818	0.529	0.771	5295
-270.000	189.670	28.407	0.03520	150.051	3959.90	104.74	137.33	1.08014	0.530	0.778	5187
-260.000	199.670	28.029	0.03568	142.298	3757.70	112.01	145.05	1.12023	0.529	0.782	5075
-250.000	209.670	27.650	0.03617	134.927	3554.23	119.35	152.83	1.15852	0.524	0.784	4964
-240.000	219.670	27.269	0.03667	127.927	3353.30	126.70	160.65	1.19508	0.518	0.785	4853
-230.000	229.670	26.886	0.03719	121.278	3157.63	134.05	168.49	1.23001	0.511	0.785	4741
-220.000	239.670	26.501	0.03773	114.961	2969.07	141.40	176.34	1.26351	0.506	0.787	4627
-210.000	249.670	26.112	0.03830	108.953	2788.86	148.77	184.23	1.29575	0.502	0.791	4511
-200.000	259.670	25.719	0.03888	103.237	2617.72	156.17	192.16	1.32691	0.500	0.796	4394
-190.000	269.670	25.323	0.03949	97.794	2456.02	163.59	200.15	1.35709	0.498	0.801	4279
-180.000	279.670	24.923	0.04012	92.608	2303.79	171.03	208.18	1.38631	0.493	0.803	4171
-170.000	289.670	24.519	0.04078	87.668	2160.92	178.45	216.21	1.41452	0.484	0.802	4071
-160.000	299.670	24.112	0.04147	82.961	2027.07	185.80	224.20	1.44164	0.472	0.796	3980
-150.000	309.670	23.701	0.04219	78.478	1901.85	193.05	232.12	1.46765	0.459	0.789	3894
-140.000	319.670	23.286	0.04294	74.211	1784.82	200.28	240.04	1.49276	0.457	0.794	3790
-130.000	329.670	22.869	0.04373	70.150	1675.51	207.49	247.98	1.51722	0.451	0.794	3696
-120.000	339.670	22.449	0.04455	66.290	1573.49	214.68	255.93	1.54098	0.447	0.796	3602
-110.000	349.670	22.027	0.04540	62.625	1478.35	221.86	263.89	1.56409	0.444	0.798	3509
-100.000	359.670	21.602	0.04629	59.147	1389.75	229.02	271.88	1.58662	0.441	0.800	3418
-90.000	369.670	21.176	0.04722	55.851	1307.39	236.17	279.90	1.60860	0.439	0.803	3330
-80.000	379.670	20.748	0.04820	52.732	1230.98	243.32	287.94	1.63007	0.437	0.806	3243
-70.000	389.670	20.319	0.04921	49.784	1160.31	250.45	296.01	1.65106	0.436	0.809	3159
-60.000	399.670	19.890	0.05028	47.001	1095.15	257.56	304.11	1.67157	0.431	0.809	3085
-50.000	409.670	19.461	0.05139	44.378	1035.31	264.63	312.20	1.69158	0.430	0.811	3008
-40.000	419.670	19.033	0.05254	41.909	980.59	271.68	320.32	1.71116	0.429	0.813	2935
-30.000	429.670	18.606	0.05375	39.589	930.78	278.71	328.47	1.73035	0.429	0.816	2864
-20.000	439.670	18.182	0.05500	37.411	885.66	285.73	336.65	1.74916	0.430	0.819	2796
-10.000	449.670	17.762	0.05630	35.369	845.03	292.72	344.85	1.76760	0.431	0.822	2732
0.000	459.670	17.346	0.05765	33.456	808.64	299.70	353.08	1.78570	0.432	0.824	2672
10.000	469.670	16.935	0.05905	31.667	776.27	306.66	361.33	1.80346	0.434	0.826	2616
20.000	479.670	16.530	0.06050	29.995	747.67	313.59	369.60	1.82087	0.436	0.827	2563
30.000	489.670	16.133	0.06199	28.433	722.60	320.49	377.88	1.83796	0.439	0.828	2515
40.000	499.670	15.743	0.06352	26.977	700.83	327.35	386.16	1.85471	0.441	0.829	2470
50.000	509.670	15.363	0.06509	25.618	682.12	334.18	394.45	1.87113	0.444	0.828	2429
60.000	519.670	14.993	0.06670	24.352	666.24	340.97	402.73	1.88722	0.447	0.828	2392
70.000	529.670	14.632	0.06834	23.173	652.96	347.72	411.00	1.90298	0.450	0.826	2358
80.000	539.670	14.283	0.07001	22.075	642.08	354.43	419.25	1.91841	0.453	0.824	2328
100.000	559.670	13.618	0.07343	20.101	626.68	367.70	435.69	1.94833	0.459	0.819	2276
120.000	579.670	13.000	0.07692	18.391	618.59	380.80	452.02	1.97699	0.466	0.813	2236
140.000	599.670	12.429	0.08046	16.908	616.55	393.72	468.22	2.00447	0.473	0.807	2206
160.000	619.670	11.903	0.08402	15.619	619.48	406.49	484.28	2.03082	0.481	0.800	2185
180.000	639.670	11.419	0.08757	14.496	626.33	419.13	500.21	2.05612	0.489	0.793	2171
200.000	659.670	10.976	0.09111	13.512	635.80	431.67	516.02	2.08046	0.497	0.798	2162
220.000	679.670	10.568	0.09463	12.647	646.57	444.13	531.74	2.10393	0.505	0.784	2156
240.000	699.670	10.192	0.09812	11.881	657.99	456.55	547.39	2.12662	0.514	0.781	2153
280.000	739.670	9.522	0.10502	10.588	682.02	481.36	578.59	2.16999	0.531	0.779	2153
320.000	779.670	8.943	0.11181	9.541	707.40	506.26	609.79	2.21107	0.549	0.781	2160
360.000	819.670	8.438	0.11851	8.679	734.76	531.39	641.11	2.25025	0.567	0.785	2172
400.000	859.670	7.995	0.12508	7.959	763.96	556.83	672.64	2.28780	0.585	0.791	2188
440.000	899.670	7.602	0.13155	7.350	794.05	582.65	704.44	2.32396	0.603	0.799	2208

METHANE ISOBAR AT P = 5500.0 PSI

T	T	DEN	VOL	DP/DT	DP/DD	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-279.659	180.011	28.889	0.03462	158.459	4219.40	97.21	132.47	1.03560	0.532	0.770	5317
-270.000	189.670	28.532	0.03505	150.829	4045.23	104.07	139.77	1.07584	0.533	0.776	5222
-260.000	199.670	28.160	0.03551	143.250	3852.84	111.30	147.46	1.11583	0.532	0.780	5117
-250.000	209.670	27.788	0.03599	136.033	3657.20	118.57	155.22	1.15400	0.527	0.781	5012
-240.000	219.670	27.416	0.03648	129.173	3462.53	125.86	163.01	1.19040	0.520	0.781	4907
-230.000	229.670	27.042	0.03698	122.653	3271.82	133.15	170.81	1.22518	0.514	0.781	4801
-220.000	239.670	26.666	0.03750	116.455	3087.17	140.43	178.63	1.25850	0.509	0.783	4692
-210.000	249.670	26.287	0.03804	110.560	2910.01	147.72	186.47	1.29056	0.505	0.786	4581
-200.000	259.670	25.906	0.03860	104.949	2741.24	155.04	194.35	1.32151	0.503	0.791	4469
-190.000	269.670	25.522	0.03918	99.606	2581.36	162.37	202.28	1.35148	0.500	0.795	4359
-180.000	279.670	25.134	0.03979	94.516	2430.55	169.72	210.24	1.38047	0.496	0.797	4255
-170.000	289.670	24.744	0.04041	89.665	2288.73	177.04	218.20	1.40843	0.487	0.795	4160
-160.000	299.670	24.351	0.04107	85.043	2155.72	184.30	226.12	1.43530	0.474	0.788	4074
-150.000	309.670	23.955	0.04175	80.639	2031.14	191.45	233.96	1.46105	0.461	0.781	3993
-140.000	319.670	23.557	0.04245	76.445	1914.60	198.56	241.79	1.48589	0.459	0.785	3894
-130.000	329.670	23.157	0.04318	72.454	1805.66	205.66	249.64	1.51006	0.454	0.785	3804
-120.000	339.670	22.754	0.04395	68.656	1703.85	212.73	257.49	1.53351	0.449	0.785	3715
-110.000	349.670	22.351	0.04474	65.047	1608.80	219.78	265.34	1.55631	0.446	0.786	3627
-100.000	359.670	21.946	0.04557	61.620	1520.12	226.81	273.22	1.57851	0.443	0.788	3541
-90.000	369.670	21.540	0.04643	58.368	1437.48	233.83	281.11	1.60015	0.440	0.790	3457
-80.000	379.670	21.134	0.04732	55.286	1360.57	240.83	289.02	1.62126	0.439	0.792	3374
-70.000	389.670	20.728	0.04825	52.368	1289.13	247.82	296.95	1.64189	0.437	0.794	3295
-60.000	399.670	20.322	0.04921	49.608	1222.95	254.78	304.89	1.66202	0.433	0.793	3223
-50.000	409.670	19.916	0.05021	47.001	1161.79	261.70	312.83	1.68164	0.431	0.795	3150
-40.000	419.670	19.513	0.05125	44.540	1105.47	268.59	320.79	1.70082	0.430	0.797	3079
-30.000	429.670	19.111	0.05233	42.221	1053.79	275.47	328.77	1.71961	0.430	0.799	3011
-20.000	439.670	18.712	0.05344	40.036	1006.55	282.34	336.77	1.73801	0.431	0.801	2945
-10.000	449.670	18.316	0.05460	37.981	963.55	289.18	344.79	1.75606	0.432	0.803	2882
0.000	459.670	17.923	0.05579	36.049	924.60	296.01	352.84	1.77375	0.433	0.806	2822
10.000	469.670	17.536	0.05703	34.234	889.48	302.82	360.90	1.79111	0.435	0.808	2766
20.000	479.670	17.154	0.05830	32.531	857.98	309.62	368.99	1.80815	0.437	0.809	2713
30.000	489.670	16.778	0.05960	30.934	829.91	316.39	377.09	1.82487	0.439	0.811	2664
40.000	499.670	16.409	0.06094	29.436	805.04	323.14	385.21	1.84127	0.442	0.812	2617
50.000	509.670	16.047	0.06232	28.033	783.17	329.86	393.33	1.85737	0.445	0.813	2575
60.000	519.670	15.693	0.06372	26.719	764.10	336.56	401.45	1.87316	0.448	0.813	2535
70.000	529.670	15.348	0.06516	25.489	747.62	343.22	409.58	1.88865	0.451	0.813	2499
80.000	539.670	15.011	0.06662	24.337	733.54	349.86	417.70	1.90384	0.454	0.812	2466
100.000	559.670	14.367	0.06961	22.251	711.85	363.03	433.92	1.93335	0.461	0.810	2408
120.000	579.670	13.761	0.07267	20.425	697.65	376.08	450.09	1.96173	0.468	0.807	2361
140.000	599.670	13.196	0.07578	18.825	689.73	389.00	466.18	1.98902	0.475	0.803	2324
160.000	619.670	12.669	0.07893	17.421	687.06	401.81	482.20	2.01529	0.483	0.799	2295
180.000	639.670	12.181	0.08210	16.186	688.77	414.52	498.13	2.04060	0.491	0.795	2273
200.000	659.670	11.729	0.08526	15.098	694.09	427.14	513.98	2.06500	0.499	0.791	2257
220.000	679.670	11.310	0.08842	14.136	702.19	439.71	529.76	2.08857	0.508	0.788	2247
240.000	699.670	10.922	0.09156	13.281	712.09	452.24	545.49	2.11137	0.516	0.785	2240
280.000	739.670	10.229	0.09776	11.835	734.22	477.28	576.85	2.15496	0.534	0.784	2235
320.000	779.670	9.626	0.10388	10.663	757.77	502.42	608.21	2.19626	0.552	0.785	2236
360.000	819.670	9.098	0.10991	9.694	782.31	527.78	639.72	2.23566	0.570	0.790	2242
400.000	859.670	8.631	0.11586	8.884	808.20	553.44	671.44	2.27345	0.588	0.796	2253
440.000	899.670	8.216	0.12172	8.198	835.71	579.48	703.44	2.30983	0.606	0.804	2267

METHANE ISOBAR AT P = 6000.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	CP/DT PSI/R	DP/DD PSICUFT/LB	F BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-278.198	181.472	28.947	0.03455	157.818	4260.27	97.67	136.05	1.03787	0.536	0.770	5327
-270.000	189.670	28.655	0.03490	151.548	4125.23	103.44	142.21	1.07165	0.536	0.775	5253
-260.000	199.670	28.288	0.03535	144.142	3943.24	110.61	149.89	1.11155	0.535	0.778	5156
-250.000	209.670	27.923	0.03581	137.076	3755.84	117.84	157.63	1.14960	0.530	0.779	5058
-240.000	219.670	27.558	0.03629	130.351	3567.74	125.07	165.39	1.18588	0.523	0.778	4959
-230.000	229.670	27.192	0.03678	123.954	3382.23	132.30	173.15	1.22051	0.517	0.778	4858
-220.000	239.670	26.825	0.03728	117.870	3201.67	139.51	180.93	1.25368	0.511	0.779	4754
-210.000	249.670	26.456	0.03780	112.081	3027.70	146.73	188.73	1.28556	0.508	0.782	4648
-200.000	259.670	26.084	0.03834	106.570	2861.38	153.97	196.57	1.31634	0.505	0.786	4540
-190.000	269.670	25.711	0.03889	101.320	2703.36	161.23	204.45	1.34611	0.503	0.790	4435
-180.000	279.670	25.335	0.03947	96.318	2553.94	168.50	212.35	1.37490	0.498	0.791	4336
-170.000	289.670	24.957	0.04007	91.549	2413.17	175.74	220.26	1.40265	0.489	0.788	4245
-160.000	299.670	24.576	0.04069	87.004	2280.92	182.90	228.11	1.42930	0.476	0.781	4163
-150.000	309.670	24.194	0.04133	82.672	2156.90	189.95	235.88	1.45482	0.463	0.774	4086
-140.000	319.670	23.810	0.04200	78.545	2040.75	196.97	243.63	1.47942	0.461	0.777	3990
-130.000	329.670	23.424	0.04269	74.614	1932.05	203.97	251.40	1.50334	0.456	0.776	3905
-120.000	339.670	23.037	0.04341	70.872	1830.40	210.93	259.16	1.52654	0.451	0.776	3820
-110.000	349.670	22.650	0.04415	67.312	1735.37	217.87	266.93	1.54907	0.447	0.777	3736
-100.000	359.670	22.262	0.04492	63.928	1646.58	224.79	274.70	1.57100	0.444	0.778	3654
-90.000	369.670	21.873	0.04572	60.715	1563.68	231.70	282.49	1.59235	0.442	0.779	3574
-80.000	379.670	21.485	0.04654	57.664	1486.35	238.58	290.29	1.61317	0.440	0.781	3495
-70.000	389.670	21.093	0.04740	54.772	1414.29	245.45	298.11	1.63349	0.439	0.783	3419
-60.000	399.670	20.711	0.04828	52.032	1347.27	252.28	305.93	1.65332	0.434	0.781	3351
-50.000	409.670	20.325	0.04920	49.438	1285.07	259.08	313.74	1.67262	0.432	0.782	3281
-40.000	419.670	19.942	0.05015	46.984	1227.47	265.85	321.56	1.69143	0.432	0.783	3212
-30.000	429.670	19.560	0.05112	44.666	1174.28	272.60	329.40	1.70994	0.431	0.785	3146
-20.000	439.670	19.181	0.05213	42.477	1125.32	279.34	337.26	1.72802	0.432	0.787	3082
-10.000	449.670	18.805	0.05318	40.411	1080.40	286.06	345.14	1.74574	0.433	0.789	3020
0.000	459.670	18.433	0.05425	38.464	1039.34	292.76	353.04	1.76312	0.434	0.791	2961
10.000	469.670	18.065	0.05535	36.628	1001.95	299.46	360.96	1.78016	0.436	0.793	2905
20.000	479.670	17.702	0.05649	34.900	968.05	306.13	368.90	1.79689	0.438	0.795	2852
30.000	489.670	17.344	0.05766	33.273	937.45	312.80	376.85	1.81330	0.441	0.797	2802
40.000	499.670	16.992	0.05885	31.742	909.97	319.44	384.83	1.82942	0.443	0.798	2755
50.000	509.670	16.647	0.06007	30.303	885.41	326.07	392.81	1.84524	0.446	0.799	2711
60.000	519.670	16.303	0.06132	28.949	863.61	332.68	400.81	1.86078	0.449	0.800	2670
70.000	529.670	15.977	0.06259	27.677	844.37	339.27	408.81	1.87603	0.452	0.800	2632
80.000	539.670	15.653	0.06389	26.481	827.53	345.84	416.82	1.89101	0.455	0.801	2597
100.000	559.670	15.029	0.06654	24.302	800.36	358.90	432.83	1.92015	0.462	0.801	2535
120.000	579.670	14.433	0.06926	22.377	780.82	371.88	448.83	1.94824	0.469	0.799	2483
140.000	599.670	13.883	0.07203	20.677	767.74	384.77	464.80	1.97533	0.477	0.798	2439
160.000	619.670	13.361	0.07484	19.174	760.13	397.58	480.74	2.00146	0.485	0.796	2404
180.000	639.670	12.873	0.07768	17.843	757.13	410.32	496.63	2.02670	0.493	0.793	2376
200.000	659.670	12.418	0.08053	16.661	758.01	423.01	512.48	2.05110	0.501	0.791	2355
220.000	679.670	11.994	0.08338	15.609	762.14	435.65	528.29	2.07471	0.510	0.790	2338
240.000	699.670	11.593	0.08622	14.671	768.96	448.27	544.06	2.09758	0.519	0.788	2327
280.000	739.670	10.886	0.09186	13.077	787.91	473.50	575.56	2.14136	0.536	0.787	2315
320.000	779.670	10.265	0.09742	11.781	809.86	498.84	607.08	2.18286	0.554	0.789	2311
360.000	819.670	9.718	0.10291	10.709	832.94	524.39	638.73	2.22244	0.572	0.794	2313
400.000	859.670	9.232	0.10832	9.811	856.79	550.26	670.60	2.26041	0.590	0.800	2319
440.000	899.670	8.799	0.11365	9.048	881.53	576.49	702.77	2.29698	0.608	0.808	2329

METHANE ISOBAR AT P = 7000.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	DP/DT PSI/R	DP/DD PSICUFT/LB	E BTU/LP	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	W FT/S
-275.306	184.364	29.062	0.03441	156.591	4335.44	98.62	143.22	1.04242	0.541	0.770	5345
-270.000	189.670	28.893	0.03461	152.825	4268.77	102.24	147.11	1.06355	0.542	0.772	5308
-260.000	199.670	28.537	0.03504	145.759	4109.40	109.33	154.76	1.10329	0.540	0.775	5226
-250.000	209.670	28.183	0.03548	138.987	3939.94	116.46	162.46	1.14116	0.535	0.775	5141
-240.000	219.670	27.831	0.03593	132.523	3766.07	123.60	170.17	1.17723	0.528	0.773	5053
-230.000	229.670	27.479	0.03639	126.361	3591.85	130.71	177.89	1.21162	0.522	0.772	4963
-220.000	239.670	27.127	0.03686	120.491	3420.16	137.82	185.60	1.24452	0.516	0.772	4869
-210.000	249.670	26.774	0.03735	114.900	3253.09	144.92	193.33	1.27612	0.512	0.774	4772
-200.000	259.670	26.420	0.03785	109.572	3092.06	152.03	201.09	1.30658	0.510	0.778	4673
-190.000	269.670	26.065	0.03837	104.492	2938.03	159.15	208.88	1.33603	0.507	0.781	4576
-180.000	279.670	25.709	0.03890	99.649	2791.55	166.27	216.69	1.36447	0.503	0.781	4484
-170.000	289.670	25.352	0.03945	95.028	2652.90	173.36	224.49	1.39187	0.499	0.778	4401
-160.000	299.670	24.993	0.04001	90.620	2522.13	180.37	232.23	1.41815	0.481	0.770	4326
-150.000	309.670	24.633	0.04060	86.415	2399.11	187.27	239.89	1.44328	0.467	0.761	4250
-140.000	319.670	24.272	0.04120	82.403	2283.58	194.12	247.52	1.46749	0.465	0.764	4168
-130.000	329.670	23.911	0.04182	78.577	2175.23	200.94	255.15	1.49100	0.460	0.763	4089
-120.000	339.670	23.550	0.04246	74.930	2073.70	207.74	262.78	1.51378	0.455	0.762	4011
-110.000	349.670	23.189	0.04312	71.454	1978.57	214.50	270.40	1.53589	0.451	0.762	3934
-100.000	359.670	22.828	0.04381	68.144	1889.49	221.23	278.02	1.55735	0.448	0.762	3859
-90.000	369.670	22.468	0.04451	64.993	1806.08	227.95	285.64	1.57828	0.445	0.763	3785
-80.000	379.670	22.108	0.04523	61.996	1728.01	234.64	293.27	1.59865	0.443	0.763	3712
-70.000	389.670	21.750	0.04598	59.146	1654.96	241.31	300.91	1.61851	0.442	0.764	3642
-60.000	399.670	21.394	0.04674	56.438	1586.67	247.95	308.54	1.63785	0.437	0.762	3579
-50.000	409.670	21.039	0.04753	53.866	1522.87	254.55	316.16	1.65667	0.435	0.762	3514
-40.000	419.670	20.686	0.04834	51.424	1463.36	261.12	323.78	1.67505	0.434	0.762	3450
-30.000	429.670	20.336	0.04917	49.109	1407.93	267.67	331.41	1.69302	0.434	0.764	3387
-20.000	439.670	19.989	0.05003	46.913	1356.38	274.21	339.05	1.71061	0.435	0.765	3326
-10.000	449.670	19.645	0.05090	44.832	1308.55	280.73	346.71	1.72783	0.435	0.767	3268
0.000	459.670	19.304	0.05180	42.860	1264.28	287.24	354.39	1.74472	0.437	0.769	3211
10.000	469.670	18.967	0.05272	40.993	1223.40	293.75	362.09	1.76129	0.439	0.771	3156
20.000	479.670	18.634	0.05367	39.225	1185.76	300.24	369.80	1.77754	0.441	0.773	3104
30.000	489.670	18.305	0.05463	37.554	1151.20	306.73	377.54	1.79350	0.443	0.774	3054
40.000	499.670	17.981	0.05561	35.971	1119.57	313.21	385.29	1.80918	0.446	0.776	3006
50.000	509.670	17.663	0.05662	34.475	1090.73	319.68	393.06	1.82457	0.448	0.778	2961
60.000	519.670	17.343	0.05764	33.059	1064.52	326.14	400.85	1.83971	0.451	0.780	2919
70.000	529.670	17.042	0.05868	31.721	1040.80	332.59	408.65	1.85458	0.454	0.781	2879
80.000	539.670	16.740	0.05974	30.455	1019.42	339.04	416.47	1.86920	0.458	0.782	2841
100.000	559.670	16.155	0.06190	28.127	983.13	351.90	432.14	1.89771	0.465	0.784	2772
120.000	579.670	15.596	0.06412	26.046	954.57	364.73	447.84	1.92528	0.472	0.786	2713
140.000	599.670	15.064	0.06638	24.185	932.74	377.53	463.58	1.95196	0.480	0.787	2661
160.000	619.670	14.553	0.06869	22.519	916.70	390.29	479.33	1.97779	0.488	0.788	2618
180.000	639.670	14.081	0.07102	21.026	905.63	403.03	495.09	2.00283	0.497	0.788	2580
200.000	659.670	13.630	0.07337	19.686	898.82	415.76	510.86	2.02711	0.505	0.789	2550
220.000	679.670	13.205	0.07573	18.482	895.64	428.48	526.64	2.05068	0.514	0.789	2524
240.000	699.670	12.804	0.07810	17.398	895.56	441.20	542.44	2.07358	0.523	0.790	2504
280.000	739.670	12.072	0.08283	15.533	903.01	466.71	574.08	2.11756	0.541	0.792	2475
320.000	779.670	11.424	0.08753	14.000	918.12	492.37	605.83	2.15936	0.559	0.795	2460
360.000	819.670	10.849	0.09218	12.726	937.79	518.26	637.74	2.19927	0.578	0.800	2454
400.000	859.670	10.335	0.09676	11.656	959.22	544.46	669.87	2.23755	0.596	0.807	2453
440.000	899.670	9.874	0.10128	10.745	981.38	571.02	702.29	2.27441	0.613	0.814	2457

METHANE ISOBAR AT P = 8000.0 PSI

T DEG F	T DEG R	DEN LB/CUFT	VOL CUFT/LB	CP/DT PSI/R	DP/CD PSICUFT/LB	E BTU/LB	H BTU/LB	S BTU/LB/R	CV BTU/LB/R	CP BTU/LB/R	H FT/S
-272.452	187.218	29.173	0.03428	155.437	4401.89	99.60	150.38	1.04696	0.546	0.770	5361
-270.000	189.670	29.124	0.03434	153.900	4388.93	101.15	152.01	1.05575	0.547	0.771	5352
-260.000	199.670	28.776	0.03475	147.172	4255.21	108.16	159.64	1.09540	0.545	0.772	5285
-250.000	209.670	28.431	0.03517	140.689	4105.95	115.21	167.31	1.13313	0.540	0.772	5213
-240.000	219.670	28.090	0.03560	134.476	3948.08	122.26	174.99	1.16903	0.533	0.769	5137
-230.000	229.670	27.750	0.03604	128.537	3786.52	129.28	182.66	1.20323	0.526	0.767	5057
-220.000	239.670	27.411	0.03648	122.868	3624.83	136.28	190.33	1.23592	0.521	0.767	4973
-210.000	249.670	27.072	0.03694	117.459	3465.56	143.28	198.00	1.26728	0.517	0.768	4884
-200.000	259.670	26.733	0.03741	112.299	3310.54	150.28	205.69	1.29750	0.515	0.771	4794
-190.000	269.670	26.393	0.03789	107.374	3161.04	157.29	213.42	1.32668	0.512	0.773	4704
-180.000	279.670	26.053	0.03838	102.673	3017.91	164.29	221.15	1.35484	0.507	0.773	4619
-170.000	289.670	25.713	0.03889	98.183	2881.65	171.26	228.87	1.38195	0.498	0.769	4542
-160.000	299.670	25.372	0.03941	93.895	2752.51	178.14	236.52	1.40793	0.485	0.761	4474
-150.000	309.670	25.031	0.03995	89.800	2630.53	184.90	244.09	1.43276	0.471	0.752	4409
-140.000	319.670	24.689	0.04050	85.888	2515.61	191.62	251.62	1.45665	0.469	0.754	4327
-130.000	329.670	24.348	0.04107	82.152	2407.52	198.30	259.15	1.47984	0.463	0.752	4255
-120.000	339.670	24.007	0.04165	78.585	2305.98	204.95	266.66	1.50230	0.459	0.751	4182
-110.000	349.670	23.667	0.04225	75.181	2210.66	211.57	274.17	1.52408	0.455	0.750	4111
-100.000	359.670	23.327	0.04287	71.932	2121.21	218.16	281.67	1.54523	0.451	0.750	4041
-90.000	369.670	22.988	0.04350	68.834	2037.28	224.73	289.17	1.56579	0.449	0.750	3972
-80.000	379.670	22.651	0.04415	65.879	1958.53	231.27	296.67	1.58582	0.447	0.750	3904
-70.000	389.670	22.316	0.04481	63.064	1884.66	237.79	304.17	1.60533	0.445	0.751	3838
-60.000	399.670	21.982	0.04549	60.382	1815.36	244.28	311.67	1.62432	0.440	0.748	3780
-50.000	409.670	21.651	0.04619	57.828	1750.38	250.72	319.14	1.64279	0.438	0.747	3719
-40.000	419.670	21.321	0.04690	55.397	1689.46	257.14	326.62	1.66082	0.437	0.748	3659
-30.000	429.670	20.995	0.04763	53.084	1632.41	263.54	334.10	1.67843	0.437	0.748	3600
-20.000	439.670	20.671	0.04838	50.884	1579.03	269.92	341.59	1.69567	0.437	0.750	3542
-10.000	449.670	20.350	0.04914	48.791	1529.13	276.30	349.09	1.71254	0.438	0.751	3485
0.000	459.670	20.033	0.04992	46.802	1482.56	282.66	356.61	1.72908	0.439	0.753	3430
10.000	469.670	19.713	0.05071	44.912	1439.17	289.02	364.15	1.74530	0.441	0.755	3377
20.000	479.670	19.409	0.05152	43.115	1398.80	295.38	371.70	1.76122	0.443	0.756	3326
30.000	489.670	19.103	0.05235	41.409	1361.34	301.73	379.28	1.77685	0.445	0.758	3277
40.000	499.670	18.801	0.05319	39.787	1326.63	308.08	386.87	1.79220	0.448	0.760	3230
50.000	509.670	18.503	0.05405	38.248	1294.56	314.42	394.49	1.80729	0.451	0.762	3185
60.000	519.670	18.210	0.05492	36.785	1265.00	320.77	402.12	1.82212	0.454	0.764	3141
70.000	529.670	17.921	0.05580	35.396	1237.83	327.11	409.77	1.83671	0.457	0.766	3100
80.000	539.670	17.633	0.05670	34.077	1212.92	333.46	417.45	1.85105	0.461	0.768	3061
100.000	559.670	17.086	0.05853	31.635	1169.41	346.14	432.84	1.87907	0.468	0.772	2989
120.000	579.670	16.556	0.06040	29.432	1133.57	358.83	448.31	1.90621	0.475	0.775	2925
140.000	599.670	16.048	0.06231	27.444	1104.52	371.52	463.83	1.93254	0.483	0.777	2869
160.000	619.670	15.562	0.06426	25.649	1081.44	384.21	479.40	1.95809	0.492	0.780	2819
180.000	639.670	15.093	0.06623	24.026	1063.59	396.92	495.03	1.98290	0.500	0.782	2776
200.000	659.670	14.653	0.06822	22.558	1050.27	409.64	510.70	2.00702	0.509	0.785	2738
220.000	679.670	14.240	0.07022	21.228	1040.89	422.38	526.41	2.03049	0.518	0.787	2706
240.000	699.670	13.843	0.07224	20.021	1034.91	435.15	542.17	2.05334	0.527	0.789	2679
280.000	739.670	13.103	0.07628	17.926	1031.36	460.82	573.82	2.09734	0.545	0.794	2637
320.000	779.670	12.451	0.08032	16.182	1036.68	486.69	605.68	2.13928	0.564	0.799	2609
360.000	819.670	11.857	0.08434	14.719	1048.68	512.84	637.77	2.17941	0.582	0.805	2592
400.000	859.670	11.324	0.08831	13.483	1065.48	539.30	670.12	2.21794	0.600	0.812	2584
440.000	899.670	10.843	0.09223	12.428	1085.10	566.13	702.76	2.25506	0.618	0.820	2582

METHANE ISOBAR AT P = 9000.0 PSI

T	T	OEN	VOL	CP/DT	DP/OD	E	H	S	CV	CP	H
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LB	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-269.635	190.035	29.283	0.03415	154.351	4459.64	100.62	157.54	1.05149	0.551	0.770	5375
-260.000	199.670	29.007	0.03447	148.400	4379.20	107.00	164.54	1.08780	0.550	0.771	5333
-250.000	209.670	28.671	0.03488	142.204	4252.91	114.00	172.19	1.12544	0.545	0.769	5275
-240.000	219.670	28.338	0.03529	136.236	4113.19	121.03	179.84	1.16122	0.538	0.766	5211
-230.000	229.670	28.008	0.03570	130.512	3965.97	127.97	187.48	1.19527	0.531	0.764	5142
-220.000	239.670	27.680	0.03613	125.034	3815.63	134.89	195.10	1.22778	0.525	0.762	5066
-210.000	249.670	27.352	0.03656	119.797	3665.27	141.80	202.73	1.25896	0.521	0.763	4986
-200.000	259.670	27.026	0.03700	114.793	3517.17	148.70	210.37	1.28897	0.519	0.765	4903
-190.000	269.670	26.699	0.03745	110.011	3372.94	155.62	218.03	1.31793	0.516	0.767	4821
-180.000	279.670	26.373	0.03792	105.440	3233.75	162.52	225.71	1.34587	0.511	0.767	4742
-170.000	289.670	26.047	0.03839	101.070	3100.33	169.38	233.36	1.37274	0.502	0.762	4671
-160.000	299.670	25.721	0.03888	96.891	2973.16	176.15	240.94	1.39847	0.489	0.754	4609
-150.000	309.670	25.396	0.03938	92.894	2852.46	182.80	248.42	1.42305	0.475	0.744	4550
-140.000	319.670	25.070	0.03989	89.072	2738.28	189.40	255.87	1.44669	0.473	0.746	4473
-130.000	329.670	24.745	0.04041	85.416	2630.52	195.97	263.32	1.46962	0.467	0.743	4405
-120.000	339.670	24.421	0.04095	81.920	2529.00	202.50	270.75	1.49181	0.462	0.742	4338
-110.000	349.670	24.097	0.04150	78.577	2433.47	209.00	278.16	1.51332	0.458	0.741	4271
-100.000	359.670	23.775	0.04206	75.383	2343.63	215.47	285.57	1.53421	0.455	0.740	4205
-90.000	369.670	23.454	0.04264	72.329	2259.17	221.91	292.97	1.55451	0.452	0.740	4140
-80.000	379.670	23.135	0.04322	69.413	2179.78	228.33	300.37	1.57426	0.450	0.740	4077
-70.000	389.670	22.817	0.04383	66.627	2105.15	234.73	307.77	1.59350	0.448	0.740	4015
-60.000	399.670	22.502	0.04444	63.968	2034.98	241.10	315.16	1.61223	0.443	0.737	3960
-50.000	409.670	22.189	0.04507	61.430	1969.01	247.42	322.52	1.63043	0.441	0.736	3903
-40.000	419.670	21.878	0.04571	59.008	1906.98	253.71	329.89	1.64819	0.440	0.736	3846
-30.000	429.670	21.570	0.04636	56.698	1848.68	259.99	337.25	1.66553	0.440	0.737	3789
-20.000	439.670	21.265	0.04703	54.495	1793.89	266.26	344.63	1.68250	0.440	0.738	3734
-10.000	449.670	20.962	0.04770	52.394	1742.44	272.51	352.01	1.69911	0.441	0.739	3680
0.000	459.670	20.663	0.04839	50.391	1694.16	278.76	359.41	1.71539	0.442	0.741	3627
10.000	469.670	20.368	0.04910	48.482	1648.90	285.01	366.83	1.73135	0.444	0.743	3576
20.000	479.670	20.075	0.04981	46.663	1606.49	291.25	374.27	1.74701	0.446	0.744	3526
30.000	489.670	19.787	0.05054	44.929	1566.84	297.49	381.72	1.76239	0.448	0.746	3478
40.000	499.670	19.502	0.05128	43.277	1529.81	303.74	389.20	1.77750	0.451	0.749	3431
50.000	509.670	19.221	0.05203	41.703	1495.27	309.99	396.69	1.79236	0.454	0.751	3386
60.000	519.670	18.944	0.05279	40.203	1463.13	316.24	404.21	1.80696	0.457	0.753	3343
70.000	529.670	18.671	0.05356	38.773	1433.26	322.49	411.75	1.82133	0.460	0.755	3302
80.000	539.670	18.403	0.05434	37.412	1405.57	328.75	419.31	1.83547	0.463	0.757	3262
100.000	559.670	17.880	0.05593	34.877	1356.31	341.28	434.49	1.86310	0.471	0.761	3189
120.000	579.670	17.375	0.05755	32.576	1314.53	353.84	449.76	1.88990	0.478	0.765	3122
140.000	599.670	16.889	0.05921	30.485	1279.49	366.43	465.11	1.91593	0.487	0.769	3062
160.000	619.670	16.422	0.06089	28.583	1250.47	379.05	480.53	1.94123	0.495	0.773	3008
180.000	639.670	15.974	0.06260	26.853	1226.79	391.70	496.03	1.96584	0.504	0.777	2960
200.000	659.670	15.546	0.06432	25.278	1207.83	404.40	511.60	1.98981	0.513	0.780	2918
220.000	679.670	15.137	0.06606	23.841	1193.03	417.13	527.23	2.01316	0.522	0.784	2881
240.000	699.670	14.747	0.06781	22.530	1181.86	429.92	542.94	2.03593	0.531	0.787	2849
260.000	719.670	14.020	0.07133	20.235	1168.67	455.68	574.55	2.07987	0.550	0.794	2796
320.000	779.670	13.360	0.07485	18.306	1165.21	481.69	606.44	2.12185	0.568	0.801	2758
360.000	819.670	12.761	0.07837	16.674	1169.20	508.02	638.62	2.16210	0.587	0.808	2732
400.000	859.670	12.217	0.08186	15.284	1178.94	534.70	671.11	2.20081	0.605	0.816	2715
440.000	899.670	11.722	0.08531	14.092	1193.10	561.75	703.93	2.23812	0.623	0.825	2705

METHANE ISOBAR AT P = 10000.0 PSI

T	T	DEN	VOL	OP/OT	OP/DO	E	H	S	CV	CP	W
DEG F	DEG R	LB/CUFT	CUFT/LB	PSI/R	PSICUFT/LR	BTU/LB	BTU/LB	BTU/LB/R	BTU/LB/R	BTU/LB/R	FT/S
-266.853	192.817	29.389	0.03403	153.327	4508.70	101.67	164.67	1.05599	0.555	0.770	5386
-260.000	199.670	29.233	0.03421	149.456	4479.41	106.08	169.43	1.08046	0.554	0.770	5370
-250.000	209.670	28.902	0.03460	143.547	4379.48	113.00	177.07	1.11805	0.549	0.768	5327
-240.000	219.670	28.577	0.03499	137.823	4260.43	119.91	184.70	1.15374	0.542	0.764	5275
-230.000	229.670	28.255	0.03539	132.309	4129.59	126.78	192.32	1.18767	0.535	0.761	5216
-220.000	239.670	27.936	0.03580	127.016	3992.21	133.62	199.91	1.22005	0.529	0.759	5151
-210.000	249.670	27.618	0.03621	121.943	3852.08	140.45	207.50	1.25108	0.525	0.759	5079
-200.000	259.670	27.302	0.03663	117.087	3711.97	147.27	215.10	1.28092	0.523	0.761	5004
-190.000	269.670	26.987	0.03705	112.438	3573.93	154.10	222.71	1.30970	0.520	0.762	4928
-180.000	279.670	26.673	0.03749	107.989	3439.42	160.91	230.34	1.33745	0.515	0.761	4856
-170.000	289.670	26.353	0.03794	103.729	3309.47	167.68	237.93	1.36412	0.505	0.756	4790
-160.000	299.670	26.046	0.03839	99.651	3184.76	174.35	245.45	1.38965	0.492	0.747	4733
-150.000	309.670	25.734	0.03886	95.745	3065.71	180.91	252.87	1.41401	0.479	0.737	4679
-140.000	319.670	25.422	0.03934	92.004	2952.54	187.41	260.25	1.43744	0.475	0.739	4607
-130.000	329.670	25.110	0.03982	88.421	2845.31	193.88	267.63	1.46016	0.470	0.736	4543
-120.000	339.670	24.803	0.04032	84.990	2743.95	200.31	274.98	1.48213	0.465	0.735	4480
-110.000	349.670	24.491	0.04083	81.704	2648.28	206.71	282.32	1.50342	0.461	0.733	4417
-100.000	359.670	24.183	0.04135	78.558	2558.10	213.08	289.65	1.52409	0.458	0.733	4355
-90.000	369.670	23.877	0.04188	75.546	2473.15	219.42	296.97	1.54417	0.455	0.732	4294
-80.000	379.670	23.572	0.04242	72.663	2393.14	225.74	304.29	1.56371	0.453	0.732	4234
-70.000	389.670	23.270	0.04297	69.905	2317.79	232.03	311.61	1.58273	0.451	0.732	4175
-60.000	399.670	22.969	0.04354	67.266	2246.82	238.29	318.91	1.60124	0.446	0.728	4124
-50.000	409.670	22.671	0.04411	64.743	2179.97	244.51	326.19	1.61923	0.444	0.728	4069
-40.000	419.670	22.375	0.04469	62.339	2116.99	250.71	333.47	1.63673	0.443	0.728	4015
-30.000	429.670	22.082	0.04529	60.023	2057.65	256.89	340.74	1.65391	0.442	0.728	3961
-20.000	439.670	21.792	0.04589	57.818	2001.73	263.05	348.03	1.67067	0.443	0.729	3908
-10.000	449.670	21.505	0.04650	55.711	1949.04	269.21	355.32	1.68708	0.443	0.730	3856
0.000	459.670	21.220	0.04712	53.697	1899.41	275.37	362.63	1.70315	0.445	0.732	3805
10.000	469.670	20.933	0.04776	51.773	1852.69	281.52	369.95	1.71891	0.446	0.733	3755
20.000	479.670	20.661	0.04840	49.935	1808.72	287.67	377.30	1.73438	0.448	0.735	3707
30.000	489.670	20.387	0.04905	48.179	1767.38	293.83	384.66	1.74957	0.451	0.737	3660
40.000	499.670	20.115	0.04971	46.501	1728.53	299.99	392.04	1.76449	0.453	0.739	3614
50.000	509.670	19.849	0.05038	44.899	1692.08	306.15	399.44	1.77917	0.456	0.742	3570
60.000	519.670	19.585	0.05106	43.367	1657.92	312.33	406.87	1.79360	0.459	0.744	3527
70.000	529.670	19.325	0.05174	41.905	1625.94	318.50	414.32	1.80779	0.462	0.746	3486
80.000	539.670	19.073	0.05244	40.507	1596.05	324.69	421.79	1.82177	0.466	0.748	3446
100.000	559.670	18.571	0.05385	37.897	1542.15	337.10	436.81	1.84909	0.473	0.753	3372
120.000	579.670	18.087	0.05529	35.513	1495.53	349.54	451.92	1.87562	0.481	0.758	3303
140.000	599.670	17.621	0.05675	33.335	1455.52	362.04	467.13	1.90141	0.490	0.763	3241
160.000	619.670	17.171	0.05824	31.344	1421.47	374.58	482.42	1.92650	0.498	0.767	3185
180.000	639.670	16.739	0.05974	29.522	1392.79	387.19	497.81	1.95094	0.507	0.772	3134
200.000	659.670	16.323	0.06126	27.855	1368.92	399.85	513.29	1.97476	0.516	0.776	3088
220.000	679.670	15.925	0.06279	26.327	1349.34	412.57	528.85	1.99800	0.525	0.780	3047
240.000	699.670	15.543	0.06434	24.926	1333.55	425.36	544.50	2.02069	0.535	0.785	3011
280.000	739.670	14.827	0.06744	22.455	1311.69	451.16	576.05	2.06454	0.553	0.793	2951
320.000	779.670	14.172	0.07056	20.362	1300.33	477.27	607.93	2.10652	0.572	0.801	2905
360.000	819.670	13.573	0.07368	18.578	1297.12	503.73	640.16	2.14683	0.591	0.810	2870
400.000	859.670	13.024	0.07678	17.048	1300.24	530.57	672.74	2.18564	0.609	0.819	2846
440.000	899.670	12.522	0.07986	15.729	1308.34	557.81	705.68	2.22309	0.627	0.828	2829

U.S. DEPT. OF COMM. BIBLIOGRAPHIC DATA SHEET		1. PUBLICATION OR REPORT NO. NBS TN 653		2. Gov't Accession No.		3. Recipient's Accession No.	
4. TITLE AND SUBTITLE The Thermophysical Properties of Methane, From 90 to 500 K at Pressures to 700 Bar						5. Publication Date April 1974	
						6. Performing Organization Code	
7. AUTHOR(S) R. D. Goodwin						8. Performing Organ. Report No.	
9. PERFORMING ORGANIZATION NAME AND ADDRESS NATIONAL BUREAU OF STANDARDS, Boulder Labs DEPARTMENT OF COMMERCE Boulder, Colorado 80302						10. Project/Task/Work Unit No. 2750364	
						11. Contract/Grant No.	
12. Sponsoring Organization Name and Complete Address (Street, City, State, ZIP) The American Gas Association 1515 Wilson Boulevard Arlington, Virginia 22209						13. Type of Report & Period Covered 1970 to present--Final	
						14. Sponsoring Agency Code	
5. SUPPLEMENTARY NOTES							
6. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.) Thermophysical properties of methane are tabulated at uniform temperatures from 90.68 to 500 K along isobars to 700 bar. A novel equation of state is employed for the first time, having origin on the vapor-liquid coexistence boundary. Computations are based almost entirely on ideal gas specific heats and experimental P- ρ -T data via the equation of state, without weighting to data for derived properties. Good agreement with such data confirms validity of the equation and method. New P- ρ -T data are reported at 0.3 to 1.7 times the critical density.							
7. KEY WORDS (six to twelve entries; alphabetical order; capitalize only the first letter of the first key word unless a proper name; separated by semicolons) Densities; enthalpies; entropies; equation of state; internal energies; isobars; isochores; isotherms; Joule-Thomson inversion; latent heats of vaporization; melting line; orthobaric densities; PVT data; specific heats; speeds of sound; vapor pressures.							
8. AVAILABILITY <input checked="" type="checkbox"/> Unlimited <input type="checkbox"/> For Official Distribution. Do Not Release to NTIS <input type="checkbox"/> Order From Sup. of Doc., U.S. Government Printing Office Washington, D.C. 20402, SD Cat. No. C13. 46:653 <input type="checkbox"/> Order From National Technical Information Service (NTIS) Springfield, Virginia 22151				19. SECURITY CLASS (THIS REPORT) UNCLASSIFIED		21. NO. OF PAGES 280	
				20. SECURITY CLASS (THIS PAGE) UNCLASSIFIED		22. Price \$2.00	

NBS TECHNICAL PUBLICATIONS

PERIODICALS

JOURNAL OF RESEARCH reports National Bureau of Standards research and development in physics, mathematics, and chemistry. Comprehensive scientific papers give complete details of the work, including laboratory data, experimental procedures, and theoretical and mathematical analyses. Illustrated with photographs, drawings, and charts. Includes listings of other NBS papers as issued.

Published in two sections, available separately:

• Physics and Chemistry (Section A)

Papers of interest primarily to scientists working in these fields. This section covers a broad range of physical and chemical research, with major emphasis on standards of physical measurement, fundamental constants, and properties of matter. Issued six times a year. Annual subscription: Domestic, \$17.00; Foreign, \$21.25.

• Mathematical Sciences (Section B)

Studies and compilations designed mainly for the mathematician and theoretical physicist. Topics in mathematical statistics, theory of experiment design, numerical analysis, theoretical physics and chemistry, logical design and programming of computers and computer systems. Short numerical tables. Issued quarterly. Annual subscription: Domestic, \$9.00; Foreign, \$11.25.

DIMENSIONS, NBS

The best single source of information concerning the Bureau's measurement, research, developmental, cooperative, and publication activities, this monthly publication is designed for the layman and also for the industry-oriented individual whose daily work involves intimate contact with science and technology—for engineers, chemists, physicists, research managers, product-development managers, and company executives. Annual subscription: Domestic, \$6.50; Foreign, \$8.25.

NONPERIODICALS

Applied Mathematics Series. Mathematical tables, manuals, and studies.

Building Science Series. Research results, test methods, and performance criteria of building materials, components, systems, and structures.

Handbooks. Recommended codes of engineering and industrial practice (including safety codes) developed in cooperation with interested industries, professional organizations, and regulatory bodies.

Special Publications. Proceedings of NBS conferences, bibliographies, annual reports, wall charts, pamphlets, etc.

Monographs. Major contributions to the technical literature on various subjects related to the Bureau's scientific and technical activities.

National Standard Reference Data Series. NSRDS provides quantitative data on the physical and chemical properties of materials, compiled from the world's literature and critically evaluated.

Product Standards. Provide requirements for sizes, types, quality, and methods for testing various industrial products. These standards are developed cooperatively with interested Government and industry groups and provide the basis for common understanding of product characteristics for both buyers and sellers. Their use is voluntary.

Technical Notes. This series consists of communications and reports (covering both other-agency and NBS-sponsored work) of limited or transitory interest.

Federal Information Processing Standards Publications. This series is the official publication within the Federal Government for information on standards adopted and promulgated under the Public Law 89-306, and Bureau of the Budget Circular A-86 entitled, Standardization of Data Elements and Codes in Data Systems.

Consumer Information Series. Practical information, based on NBS research and experience, covering areas of interest to the consumer. Easily understandable language and illustrations provide useful background knowledge for shopping in today's technological marketplace.

BIBLIOGRAPHIC SUBSCRIPTION SERVICES

The following current-awareness and literature-survey bibliographies are issued periodically by the Bureau:

Cryogenic Data Center Current Awareness Service (Publications and Reports of Interest in Cryogenics). A literature survey issued weekly. Annual subscription: Domestic, \$20.00; foreign, \$25.00.

Liquefied Natural Gas. A literature survey issued quarterly. Annual subscription: \$20.00.

Superconducting Devices and Materials. A literature survey issued quarterly. Annual subscription: \$20.00. Send subscription orders and remittances for the preceding bibliographic services to the U.S. Department of Commerce, National Technical Information Service, Springfield, Va. 22151.

Electromagnetic Metrology Current Awareness Service (Abstracts of Selected Articles on Measurement Techniques and Standards of Electromagnetic Quantities from D-C to Millimeter-Wave Frequencies). Issued monthly. Annual subscription: \$100.00 (Special rates for multi-subscriptions). Send subscription order and remittance to the Electromagnetic Metrology Information Center, Electromagnetics Division, National Bureau of Standards, Boulder, Colo. 80302.

Order NBS publications (except Bibliographic Subscription Services) from: Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

OFFICIAL BUSINESS

Penalty for Private Use, \$300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-215

